Honeywell

Performance Series Indoor Day/Night H.264 IP Dome Camera

NTSC / PAL

HD45IP HD45IPX
HD44IP HD44IPX

User Guide

Document 800-09312V3 – Rev A – 09/2013

User Guide

Revisions

Issue	Date	Revisions
A	06/2011	New document.
B	07/2011	Added frame rate priority to Table 4-4; added Installing the Honeywell IP Utility Software with Windows 7.
V1 Rev A	08/2011	Corrected storage temperature in the specifications.
V2	08/2012	Updated the minimum system requirements. Updated the VMD configuration section. Updated the definition of Frame Rate. Removed any reference to DIP switches, especially in the Troubleshooting section. Updated the Compression Settings for the Primary and Secondary streams. Updated the method for connecting to the Honeywell Download Center and installing the Honeywell IP Utility. Updated the Specifications section.
V3	07/2013	Updated the selections for and description of DNR.

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About This Document

This document introduces the Honeywell Performance Series Indoor Day/Night H.264 IP Dome Camera (HD44IP/HD44IPX and HD45IP/HD45IPX). It covers how to install and operate your camera in a network environment.

This document is intended for system installers, administrators, and operators.

Overview of Contents

This document contains the following chapters and appendixes:

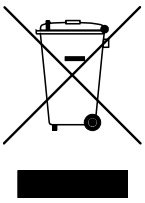
- *Chapter 1, Introduction*, introduces your Performance Series Indoor Day/Night IP dome camera and gives a functional overview of its components.
- *Chapter 2, Installation and Setup*, provides procedures for installing cameras, adjusting the lens, and setting up a network camera environment.
- *Chapter 3, Installing the Honeywell IP Utility and Web Client*, describes how to install the Honeywell IP Utility and set up administrator privileges.
- *Chapter 4, IP Camera Web Client*, describes how to use the web client application to view video and configure the available settings for the network camera.
- *Appendix A, Surface Mounting Template*, provides a mounting template for your indoor day/night IP camera.
- *Appendix B, Troubleshooting*, lists common problems encountered when setting up the network camera.
- *Appendix C, Specifications*, provides specifications for your camera.
- *Appendix D, Glossary*, explains terms and acronyms used in this guide.
- The *Index* provides quick access to commonly searched terms.

Cautions and Warnings

CAUTION **RISK OF ELECTRIC SHOCK DO NOT OPEN**	**THIS SYMBOL INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THE UNIT.**
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.	**THIS SYMBOL INDICATES THAT IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS ACCOMPANY THIS UNIT.**

Installation and servicing should be performed only by qualified and experienced technicians to conform to all local codes and to maintain your warranty.

WARNING! **24 V AC models require the use of CSA Certified/UL Listed Class 2 power adapters to ensure compliance with electrical safety standards. Power over Ethernet (PoE) should meet the IEEE 802.3af PoE standard.**



WEEE (Waste Electrical and Electronic Equipment). Correct disposal of this product (applicable in the European Union and other European countries with separate collection systems). This product should be disposed of, at the end of its useful life, as per applicable local laws, regulations, and procedures.

Caution When powering the camera from 24 V AC, a UPS source should be considered to ensure satisfactory performance.

FCC Compliance Statement

Information to the User: This equipment has been tested and found to comply with the limits for a Class B digital device. Pursuant to Part 15B of the FCC Rules, these limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and,

if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference. For example, try reorienting or relocating the receiving antenna, increasing the separation between the equipment and receiver, or connecting the equipment to an outlet on a different circuit.

Caution Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This Class B digital apparatus complies with Canadian ICES-003.

Manufacturer's Declaration of Conformance

North America

The equipment supplied with this guide conforms to UL 60950-1 and CSA C22.2 No. 60950-1.

Europe

The manufacturer declares that the equipment supplied with this guide is compliant with the essential protection requirements of the EMC directive 2004/108/EC and the General Product Safety Directive 2001/95/EC, conforming to the requirements of standards EN 55022 for emissions, EN 55024 for immunity, and EN 60950-1 for Electrical Equipment safety.

Warranty and Service

Subject to the terms and conditions listed on the Product warranty, during the warranty period Honeywell will repair or replace, at its sole option, free of charge, any defective products returned prepaid.

In the event you have a problem with any Honeywell product, please call Customer Service at 1.800.796.CCTV for assistance or to request a **Return Merchandise Authorization (RMA)** number.

Be sure to have the model number, serial number, and the nature of the problem available for the technical service representative.

Prior authorization must be obtained for all returns, exchanges, or credits. **Items shipped to Honeywell without a clearly identified Return Merchandise Authorization (RMA) number may be refused.**

1

Introduction

The Honeywell Performance Series Indoor Day/Night H.264 IP Dome Cameras (“the camera(s)”) provide high quality video surveillance over a network connection. See *Table 1-1* for descriptions of the camera models.

Table 1-1 Indoor Fixed Mini Dome Network Camera Model Numbers

Model number	Description
HD45IP	Day/Night, 720p resolution, 3.3 – 12 mm VFAI Lens, NTSC
HD45IPX	Day/Night, 720p resolution, 3.3 – 12 mm VFAI Lens, PAL
HD44IP	Day/Night, VGA resolution, 3.3 – 12 mm VFAI Lens, NTSC
HD44IPX	Day/Night, VGA resolution, 3.3 – 12 mm VFAI Lens, PAL

Features

The camera features:

- 720p (1280 x 720) or VGA (640 x 480) resolution (model dependant)
- 1/4" color CMOS progressive scan sensor
- Excellent low light performance
- Camera Sabotage Detection (CSD)
- Video Motion Detection (VMD)
- H.264 compression
- Simultaneous dual digital video streams (H.264 and MJPEG), independently configurable
- Remote firmware updates
- Support of both dynamic and static IP address assignment
- Multiple levels of password protected remote access prevents unauthorized users from altering system settings
- Advanced IP locator software to make system setup easy
- Web server for remote setup of camera video and network parameters
- 24 V AC or PoE IEEE 802.3af choice of power inputs
- Local video out – aim and focus

2

Installation and Setup

This chapter describes how to:

- Mount the camera
- Adjust the camera for the clearest image
- Set up the camera in a network system

Before You Begin

Before installing your camera, Honeywell recommends that you:

- Carefully read this guide and keep it for future reference.
- Check www.honeywellvideo.com/products/cameras/index.html to find your camera, then download the latest manuals for your camera.
- Download the latest software updates for your camera. Go to Honeywell download center, www.honeywellsystems.com/support/download-center/index.html, and follow the instructions on the page to logon, find your camera, and then download the latest software updates.

Unpack Everything

Check that the items received match those listed on the order form and packing slip. The camera packing box should include, in addition to a Quick Install Guide:

- One fully-assembled Performance Series Indoor Day/Night H.264 IP dome camera, including factory-installed BNC connector for local video out aim and focus
- One camera hardware kit that includes mounting screws and screw caps
- One BNC cable for local video out – aim and focus
- One mounting template
- One product warranty
- One DVD containing the software and this User Guide

If any parts are missing or damaged, contact the dealer from which you purchased your camera or call Honeywell Customer Service (see *Warranty and Service* on page *13*).

Equipment Required

The following tools might help you to complete the installation:

- Drill
- Screwdrivers
- Wire cutters

Overview of Installation Procedure

Note Please familiarize yourself with the installation procedure and complete each step in the exact sequence given.

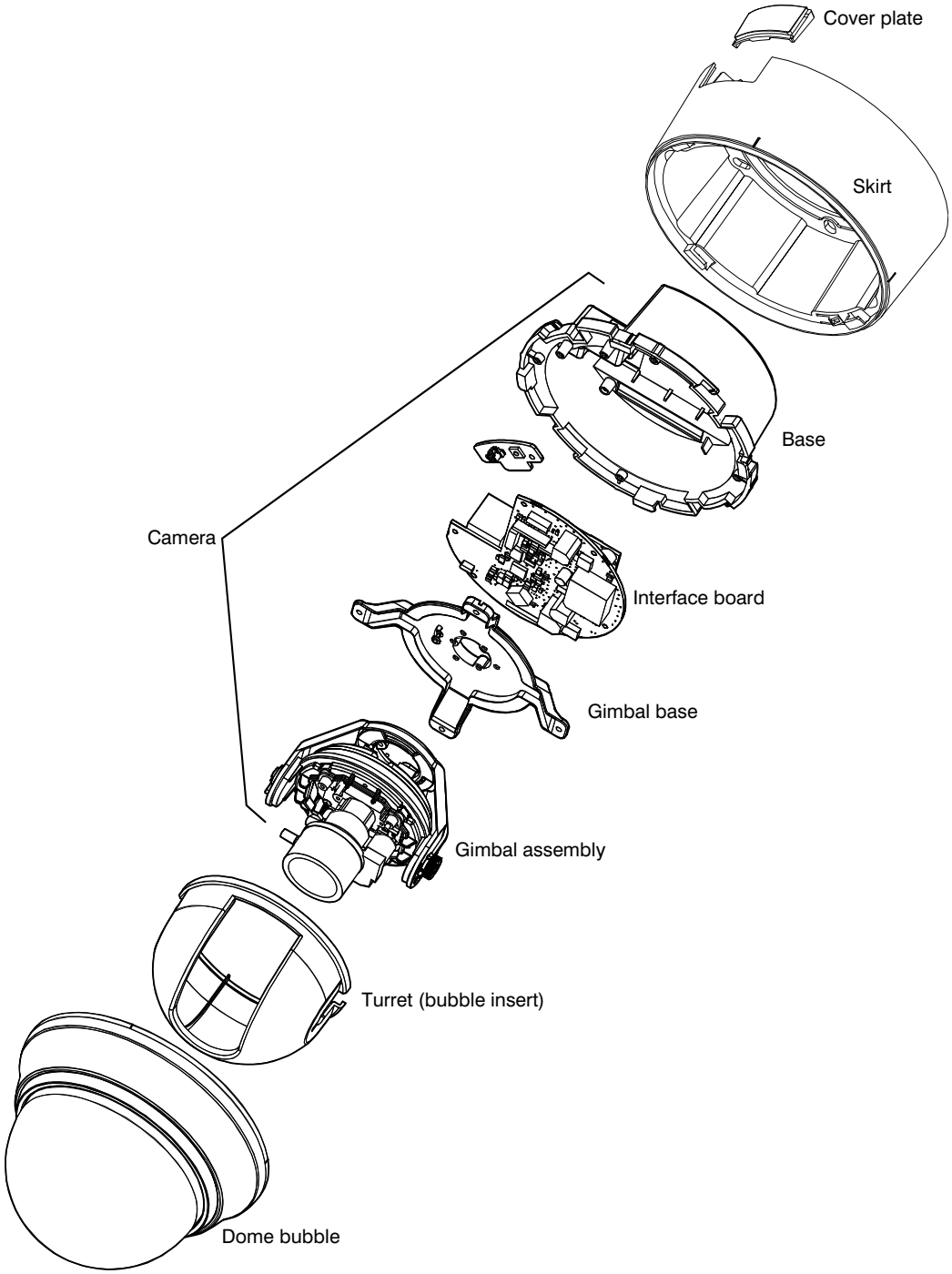
The initial installation of your camera consists of the following steps:

	Step	See …
1	Preparation	*page 12*
2	Connect the wiring.	*page 13*
3	Mount the camera.	*page 16*
4	Adjust the camera angle, position, and focus for optimum image.	*page 16*
5	Secure the enclosure cover.	*page 19*
6	Program the camera.	*page 45*

Camera Components and Functions

Your camera consists of a fully-integrated enclosure with camera and lens. The wiring can be completely concealed to reduce the risk of tampering.

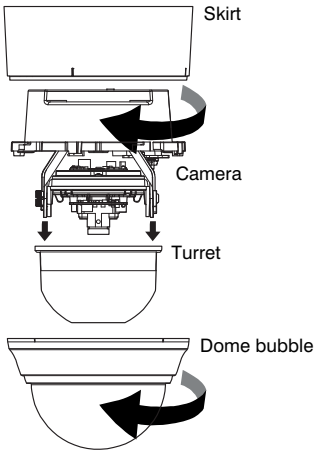
Figure 2-1 Performance Series Indoor Day/Night IP Camera Components



Camera Installation

Preparing the Camera

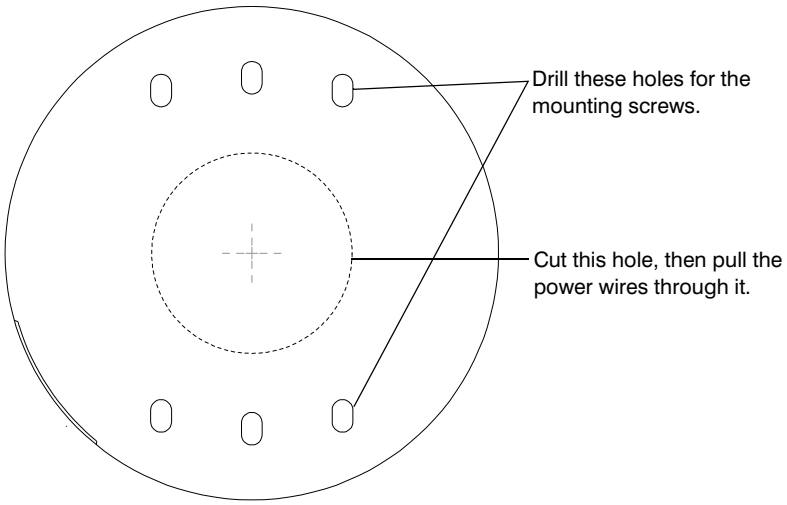
1. Rotate the dome bubble counterclockwise until it disconnects.
2. Pull the turret to remove it.
3. Rotate the camera counterclockwise until it disconnects from the skirt.
4. Set aside the dome bubble, turret, and camera.



Preparing the Mounting Surface

1. Use the mounting template provided to mark the mounting surface for the screw holes and the wire access hole (see *Surface Mounting Template* on page *69*).

Figure 2-2 Surface Mounting Template



2. Pre-drill the holes as marked with the mounting template, using the recommended hole size for the screws being used.

Note Other fasteners (preferably stainless steel) can be used, provided they are not larger than the screw holes on the mounting template.

Connecting the Wiring

Caution Installation must be performed by a qualified electrician. The power wire gauge for the distance and the number of cameras must be determined to maintain 24 V AC at each camera.

Connecting Power

Caution The use of a CSA Certified/UL Listed Class 2 power supply is required to ensure compliance with electrical safety standards.

Note Check the power source from the external power supply before applying power to the camera.

1. Connect the appropriate power supply for your installation:
   - 24 V AC power supply (proceed to *step 2*)

     - or -
   - Power over Ethernet (IEEE 802.3af) 48 V DC power supply

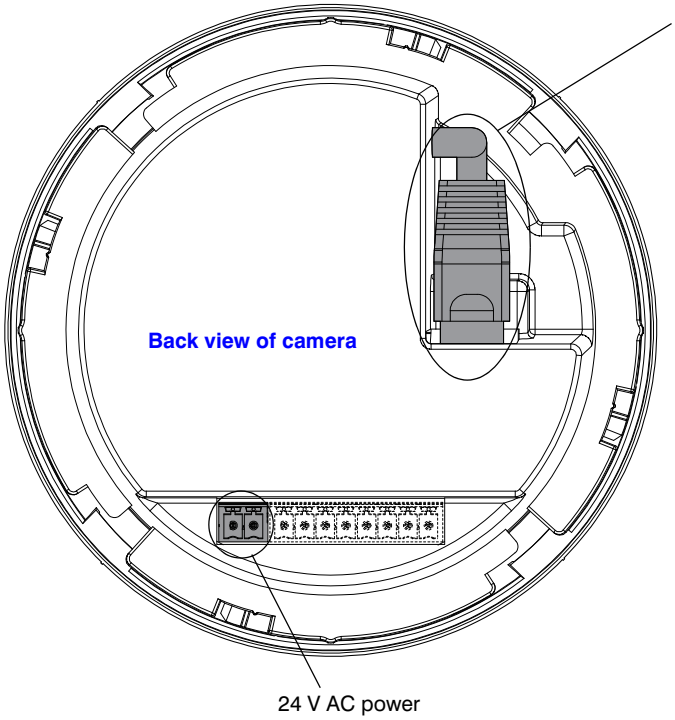
Note Connect power either from a 24 V AC source or CAT5 Ethernet connector (PoE). It is NOT recommended to connect both power sources at the same time.

Note If you are using PoE (802.3af), power will automatically be supplied to the camera through the network cable.

2. Connect to the power supply (see *Figure 2-3* on *page 14*). Locate the two-pin green connector that was shipped with your camera and make the necessary connections.
3. Plug the power supply into an appropriate power source. The LED on the RJ45 jack illuminates when the camera receives power. If it does not illuminate, check the terminal block connections and the power source.

Note To ensure satisfactory performance, it is recommended that you use a UPS source when connecting the camera to a 24 V AC power source.

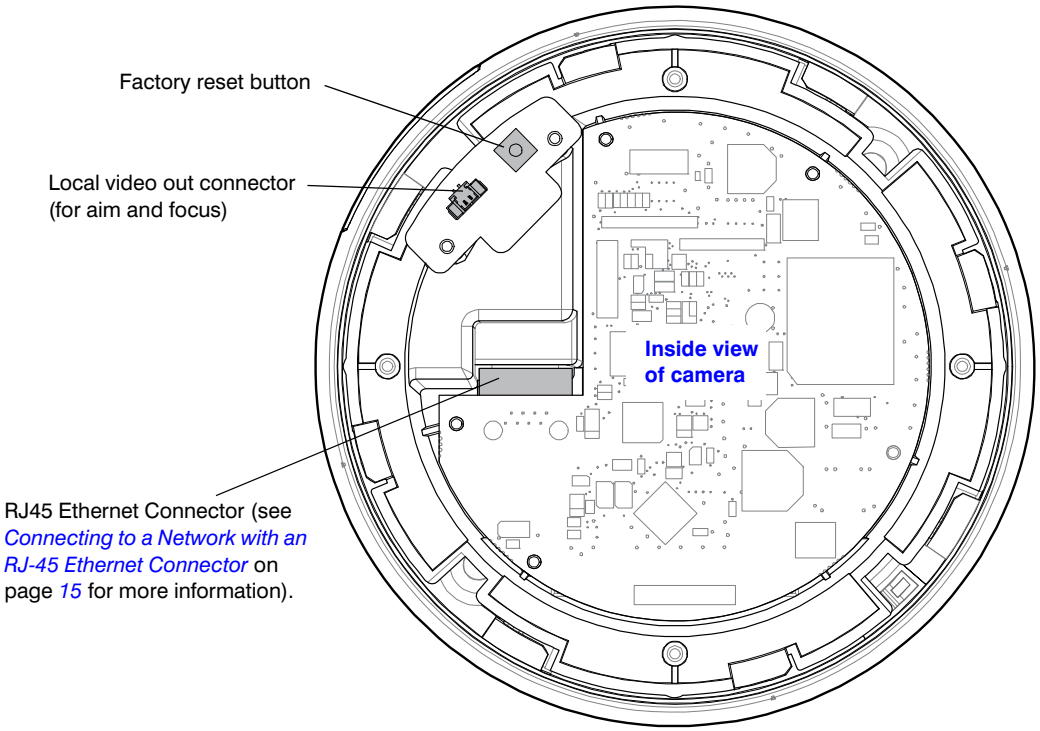
Figure 2-3 Camera and Cables



RJ45 Ethernet network connection (using 10Base T or 100Base TX cable). See *Connecting to a Network with an RJ-45 Ethernet Connector* on page *15* for more information.

Also used for Power over Ethernet (PoE 802.3af).

Figure 2-4 Wiring Connection Shown on Board


Factory reset button
Local video out connector (for aim and focus)
RJ45 Ethernet Connector (see Connecting to a Network with an RJ-45 Ethernet Connector on page 15 for more information).
Inside view of camera

Connecting to a Video Monitor

The local video out (see *Figure 2-4*) is available as a test output and should be used as needed during installation to position, aim, and focus the camera. Use the provided BNC connector to connect the video from the camera to the video input connector on your video monitor.

Note Please wait approximately 60 seconds after connecting to a power source for video to appear on the local video output.

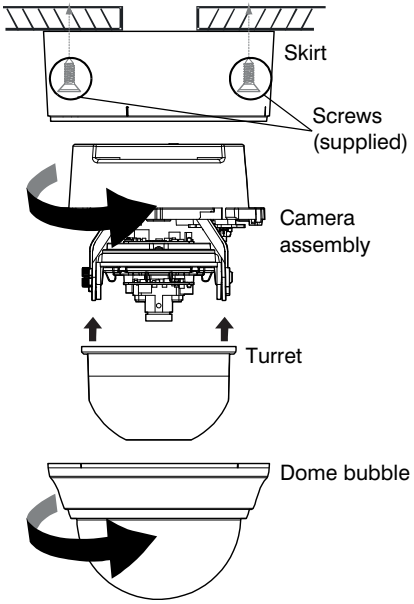
Connecting to a Network with an RJ-45 Ethernet Connector

The main video connection for your IP camera will be made through your Ethernet network connection. Connect the **Ethernet** connector on your camera to your network using an Ethernet (10Base-T, 100Base-TX) cable.

Note You can connect your camera to a network or use any type of CAT5 cable to connect it directly to a PC or laptop.

Mounting the Camera

Surface Mount



1. Secure the skirt to the ceiling (using appropriate screws, not supplied) or to the wall using the supplied screws.

Note When mounting, you must use screws that are able to support at least three times the weight of the camera.

2. Connect the wires (see *Connecting the Wiring* on page *13*).
3. Rotate and align the yellow label ( ) on the camera assembly with the yellow label on the skirt.
4. Secure the camera assembly to the skirt by pushing it into the skirt, then twisting it clockwise until it clicks securely into place.
5. Adjust the camera's field of view, as needed (see *Adjusting the Camera: FOV (Field of View) and Focus* on page *16*).
6. Install the turret by clicking it into place.
7. Install the bubble by placing it on the camera with the tabs to the left of the slots, then turning it clockwise until the tabs click securely into place.

Adjusting the Camera: FOV (Field of View) and Focus

Adjusting the Field of View

To adjust your camera's field of view:

1. Verify that power is supplied to your camera.

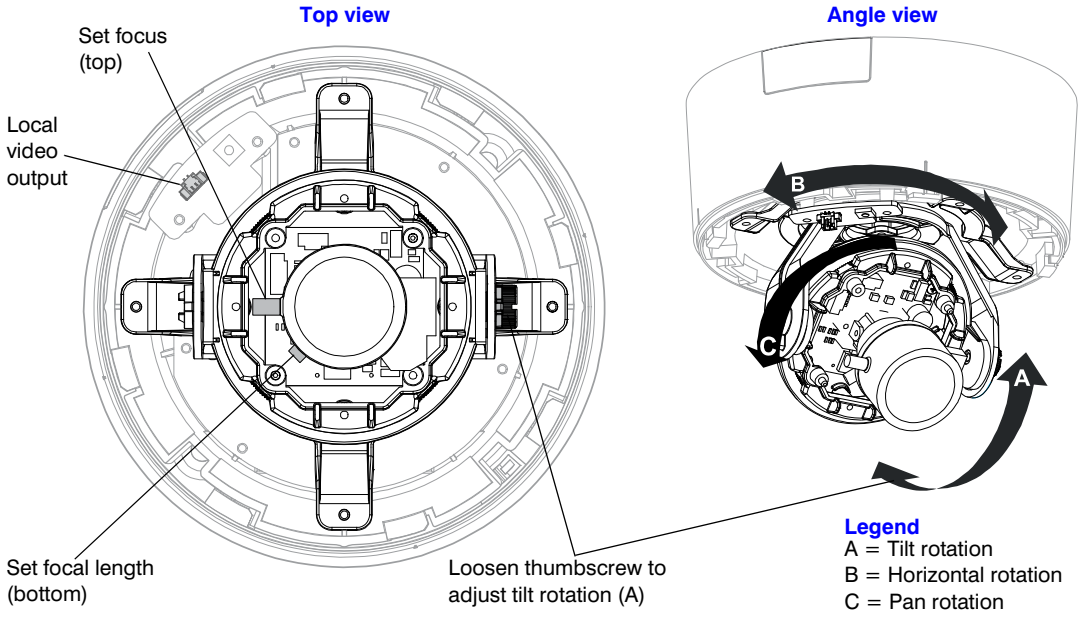
Note Please wait approximately 60 seconds after connecting to a power source for video to appear on the local video output.

2. Connect the supplied BNC video cable to the local video out connector to view the video signal on a standard monitor (see *Figure 2-5* below to connect a local video monitor).
3. Loosen the thumbscrew that locks the gimbal assembly in place (see *Figure 2-5*) to adjust the tilt rotation.
4. Adjust the gimbal assembly to the desired view. Orient as shown in *Figure 2-5* to maintain the correct picture orientation.
5. Re-tighten the thumbscrew to lock the gimbal assembly in place.
6. Disconnect the BNC video cable.

Note *Figure 2-5* illustrates the ways in which you can adjust your camera.

Caution Adjust the camera field of view only by moving the gimbal. Do not move the camera lens to adjust the camera field of view as this might result in irreparable damage.

Figure 2-5 Gimbal Adjustment

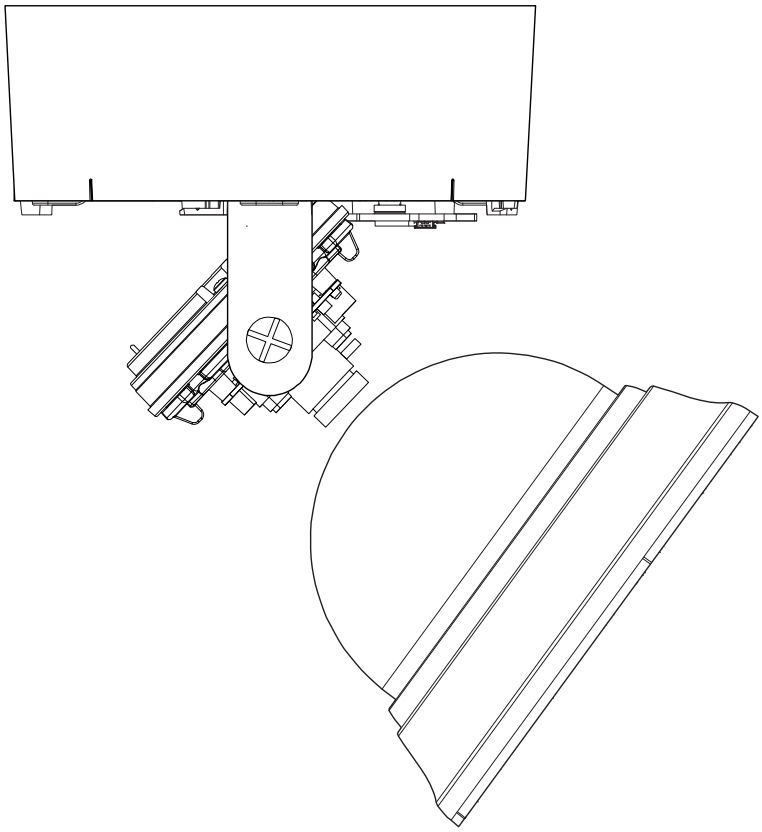


Adjusting the Lens Focus

Lenses are pre-focused at the factory. They might require a final adjustment after installation because the optical effect of the dome bubble might cause a slight defocusing of the lens.

TECH TIP! To check the focus, hold the dome bubble over the lens while making any adjustments (see *Figure 2-6*).

Figure 2-6 Holding the Dome Bubble Over the Lens



To adjust the camera position, view angle, and focus, connect the local video out to the video monitor using the supplied BNC video cable.

Restoring Factory Defaults

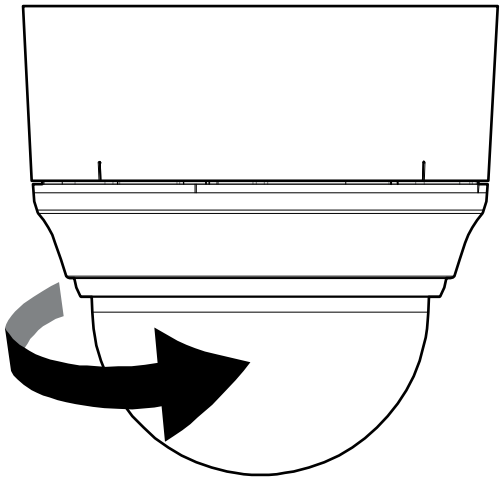
Your camera has a Factory Reset switch located inside the camera (see *Figure 2-3* on *page 14*). This switch restores your camera settings and passwords to their default settings. Press and hold the **Reset** switch for five seconds. This will reset the factory-configured parameters such as the compression settings, the camera tamper detection settings, and the video motion detection settings. This will not impact network IP address configurations.

Securing the Enclosure Cover

Install the dome bubble when you have set up your camera and completed the network connections (see *Chapter 4, IP Camera Web Client*).

Place the enclosure cover on the camera with the tabs to the left of the slots, then turn it clockwise until the tabs click securely into place (see *Figure 2-7*).

Figure 2-7 Installing the Enclosure Cover



3

Installing the Honeywell IP Utility and Web Client

This chapter describes how to:

- Install and log onto the IP Utility
- Connect to a device and configure network settings using the IP Utility
- Launch the web client software
- Uninstall the IP Utility, Bonjour, or ActiveX software

About the Honeywell IP Utility and Web Client

About the Honeywell IP Utility

The Honeywell IP Utility is a software application that is installed from a DVD or downloaded from the Honeywell Systems Group download center web site (www.honeywellsystems.com/support/download-center/index.html). It is installed on a local workstation and primarily used by Administrators to configure the cameras residing on a network.

The IP Utility enables users to:

- Discover device(s) on a network.
- Configure the IP network settings, name device(s), upgrade firmware, and change passwords.
- Open individual web client for each discovered device.

Updating the Honeywell IP Utility

Honeywell recommends that you regularly check the Honeywell websites for the latest available software updates.
Go to **www.honeywellsystems.com/support/downloadcenter/index.html** and follow the instructions on the page to logon, find your camera, and then download the software updates.

Note You will need a Username and Password to log in to the Download Center. To receive a Username and Password, contact the customer service center for your region. Contact information is found on the Download Center page.

Note Before installing and using the Honeywell IP Utility, confirm that your camera is connected to the network through an Ethernet cable. See *Connecting to a Network with an RJ-45 Ethernet Connector* on page *23*.

About the Web Client

The web client is the web-based application that enables users to:

- View live-streaming video.
- View the device network settings and firmware details.
- Configure camera settings
- Configure video analytics settings.
- Configure compression settings.

User Profiles: Honeywell IP Utility and Web Client

Both the Honeywell IP Utility and the web client have two user types: *Administrator* and *Guest* as described in *Table 3-1*.

Note Up to four (4) Administrators and/or guest users can log on at the same time.

After the IP Utility software is installed, you can change the Administrator or Guest passwords.

Table 3-1 User Profiles for Honeywell IP Utility and the Web Client

Interface	Administrator	Guest
Honeywell IP Utility	• View the list of available network devices and connect to the devices. • Configure the IP network settings. • Upgrade firmware. • Change the password to access the IP Utility application. • Change the access passwords to the web-client application.	• View the list of devices available on the network. • View system settings including device name, IP address, and MAC address.
Web Client	• View video and network settings. • Configure compression settings. • Configure camera setup. • Configure video analytics.	• Guest users are limited to the Live View tab where they can view video.

Step 1: Confirm Your System Requirements

Note Windows administrator privileges are required to install the Honeywell IP Utility and associated software.

Note Contact the network administrator if there are any questions regarding the local area network (LAN) or any other network related issues.

Install the Honeywell IP Utility on a workstation with the minimum requirements (outlined in *Table 3-2*). After the IP Utility is installed, the same computer workstation can be used to access the web client.

Table 3-2 PC Minimum System Requirements

Component	Requirement	
Operating System	IE6	Windows XP SP3 Windows 2003 Server R2 32-bit
	IE7	Windows 2008 Server 32/64-bit and R2 64-bit
	IE8	Windows XP SP3 Windows 2003 Server R2 32-bit Windows 7 (32/64-bit) Windows 2008 Server 32/64-bit Windows 2008 Server R2 64-bit
	IE9	Windows 7 (32/64-bit) Windows 2008 Server 32/64-bit Windows 2008 Server R2 64-bit
Processor	Intel® Pentium® IV, 3.1 GHz or faster	
RAM	1 GB RAM (32-bit) or 2 GB RAM (64-bit)	

Table 3-3 Items Installed On Your System

Item	Function
Honeywell IP Utility software	To enable use of the web client to configure cameras and view live video.
Bonjour software	To discover cameras on the network.
Honeywell PSIA IP Adapter software	To enable web client and systems operations with PSIA devices.
Honeywell ActiveX software	To enable live streaming of video on the web client.
Performance Series User Guides	To provide detailed information about how to install and configure your Performance Series products.

Step 2: Install the Honeywell IP Utility Software

1. Close all other applications that might be open on your computer.

Note It is recommended that you disable any Norton AntiVirus software that might be running on the workstation.

2. Open the **Honeywell IP Utility InstallShield Wizard**.

   Method 1: DVD

   Insert the DVD into the DVD-ROM drive.

Note If InstallShield does not open automatically, navigate to [***DVD drive***]**\Honeywell IP Utility\Honeywell IP Utility Setup.exe.** Double-click on the file to launch the program.

   Method 2: Web site

   a. Navigate to **www.honeywellsystems.com/support/download-center/index.html.**

   b. Follow the instructions on the page to log on, and find your camera.

Note You will need a Username and Password to log in to the Download Center. To receive a Username and Password, contact the customer service center for your region. Contact information is found on the Download Center page.

   c. Under Honeywell IP Utility, download, extract and open the **Honeywell IP Utility Set-up.exe** icon from where you extracted the file.

3. When the **Honeywell IP Utility InstallShield Wizard** opens, follow the instructions. After the installation is complete, a **Honeywell IP Utility** icon displays on the desktop.

Accessing the Performance Series Installation Guides

1. To access the installation documents that were installed with the IP Utility, click **Start ➤ All Programs ➤ Honeywell Video Systems ➤ Performance Series ➤ Manuals**.
2. Select the applicable PDF to open and view.

Installing the Honeywell IP Utility Software with Windows 7

Before installing the Honeywell IP Utility on a computer that runs on Windows 7, you should confirm that the following conditions have been met:

Enable Microsoft .NET Framework 3.5 on Your Workstation

Although Microsoft .NET Framework 3.5 is pre-installed on Windows 7, you might have to confirm that it is also enabled on your workstation.

1. Go to **Start ➤ Control Panel ➤ Programs ➤ Programs and Features**.

2. Click the check box beside **Microsoft .NET Framework 3.5** to enable it.
3. Click **OK** to save the new setting.

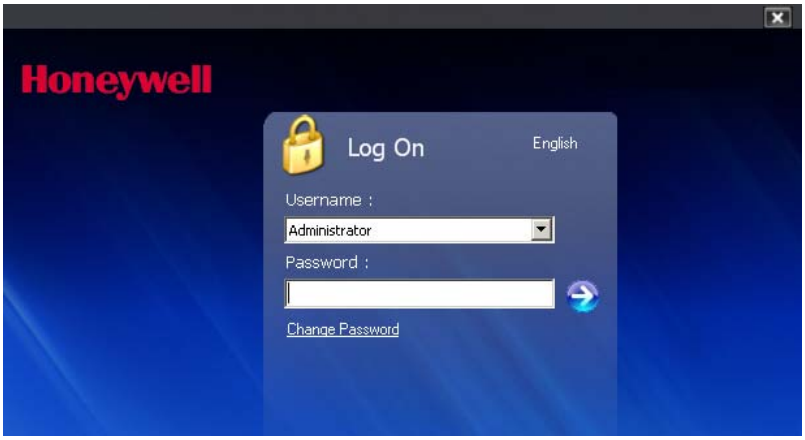
Disable User Account Control (UAC) Settings

1. Go to **Getting Started ➤ Change UAC Setting**.
2. Change the UAC setting to **Never Notify**.
3. Click **OK** to save the new setting.

Step 3: Log Onto the IP Utility and Discover Network Devices

1. Double-click the **Honeywell IP Utility** icon on your desktop.
   - or -
   Click **Start ➤ Programs ➤ Honeywell Video Systems ➤ EQUIP Series ➤ IP Utility ➤ Honeywell IP Utility**.
   The **Honeywell IP Utility Log On** window opens.

Figure 3-1 Honeywell IP Utility Log On Window

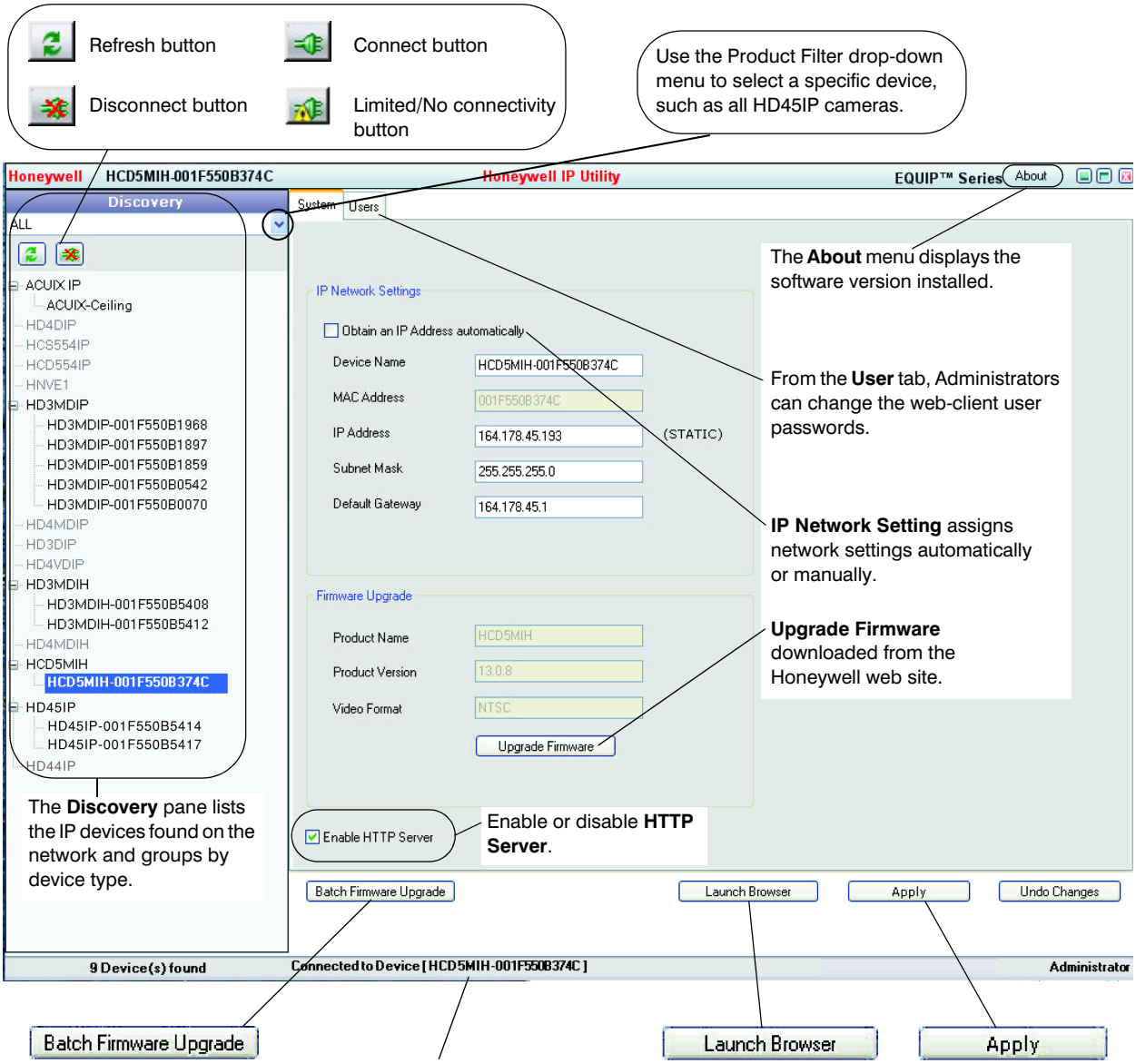


2. Select **Administrator** or **Guest** from the **User Name** drop-down list.
3. Enter the case-sensitive password in the **Password** field.
   - The default Administrator password is **1234**.
   - The default Guest password is **guest**.

Note During the installation set up, you must log on as an Administrator to access all the features.

4. Click the arrow button .
   The **Honeywell IP Utility** program searches for devices on the network and opens to the Honeywell IP Utility user interface.
5. Automatically discover or manually refresh the list of devices on the network.
   Use the manual refresh if a new device was added after you logged onto the system.
   - You do not need to do anything to discover devices. When you log on to the IP Utility, the devices on the network — including the devices on other subnets — are automatically discovered and listed in the Discovery pane. After the initial discovery, the network automatically continues to discover devices that are newly added to the network.
   - To manually refresh the device list, click the **Refresh** button ( ), located near the top of the Discovery pane.
6. **Enable or disable the HTTP Server check box** for additional security. Only an Administrator can disable (uncheck the box), resulting in the user being unable to access the web client, although video recording is unaffected.

Figure 3-2 Honeywell IP Utility User Interface



Step 4: Connect to a Device and Configure Network Settings

When you log on to the IP Utility, the devices on the network—including the devices on other subnets—are automatically discovered and are listed in the **Discovery** pane. After the initial discovery, auto-refresh continues to discover devices that are newly added to the network.

You can also manually refresh the device discovery by clicking the **Refresh** icon ( ), located near the top of the Discovery pane.

Connecting to or Disconnecting From Devices

Before configuring the IP network settings, you must connect to the IP device.

Connecting to a Device

You can connect to individual web clients for each discovered device.

- In the **Discovery** pane, double-click the device to which you want to connect.

  - or -

- Select the device and click the **Connect** button ( ).
  The network settings for the connected device are displayed in the **System** pane.

Disconnecting from a Device

In the **Discovery** pane, select the device and click **Disconnect** ( ).

Note If you disconnect the device without saving configuration details, a warning dialog box displays. Click **Yes** to save and disconnect, or click **Cancel** to discard the changes and disconnect the device.

Configuring the IP Network Settings Automatically or Manually

Note When you see the **Limited/No connectivity** button ( ), you cannot fully connect to the device because the discovered device is on a different subnet from your PC. Check your network settings for both the device and your PC to resolve this issue. Consult your network administrator for additional support.

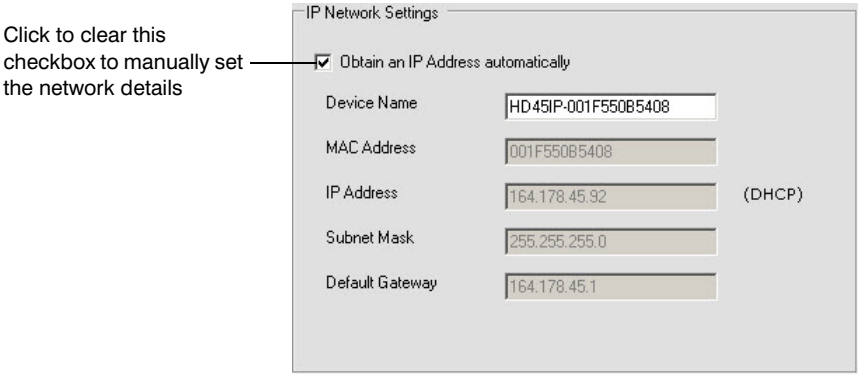
The IP network setting details, such as device name, IP address, and subnet mask, can be configured for each connected device either automatically or manually.

Note It is important to click **Apply** to save any configuration changes.

Table 3-4 IP Network Device Setting Options

Option	Description
Device Name	By default, the device name is the device model plus the MAC Address. Honeywell recommends, for security, that you change the device name.
MAC Address	The MAC address is a factory-assigned address that is unique for each device.
IP Address	The IP address of the device on the network. The camera obtains an IP address by static or dynamic (automatic) means. There are two options: DHCP (dynamic), assigned by the user, or APIPA (static), assigned by the network.
Subnet Mask	The subnet mask, or netmask, value of the device on the network. IP networks can be divided into several smaller networks by subnetting. When a network is subnetted, you must specify a subnet mask, which tells network devices which smaller network they belong to. **Note** If the subnet mask is not properly configured, the camera might not be able to communicate with other devices on the network.
Default Gateway	The default gateway address that connects the device to the network. Enter the host IP address to use as a gateway between networks. The gateway allows communication between devices that are on different networks. Without a correct gateway setting, the camera cannot receive or transmit data from or to devices that are not in the same network address range.

Figure 3-3 Set the IP Network Settings Automatically or Manually



Updating IP Network Settings Automatically

1. In the **Discovery** pane, select the device and click **Connect** ( ).
2. From the **System** tab click the **Obtain an IP Address automatically** check box.
3. Enter a **Device Name**, for example, *FrontLobbyDome01*.
4. Click **Apply**.
   The network automatically assigns the IP Address based on the DHCP network server details. **If no DHCP server is present on the network, the hardware defaults to an APIPA address (169.254.x.x).**

Updating IP Network Settings Manually

Caution When manually updating the network settings, it is important to enter the correct IP network settings before applying them. Incorrect values might cause a failure when connecting to the device. See *Table 3-4* on *page 30* for definitions of each setting.

1. In the **Discovery** pane, select the device, and click **Connect** ( ).
2. To assign a static IP address to the device, from the **System** tab click to clear the **Obtain an IP Address automatically** check box.
3. Enter a **Device Name**, for example, *FrontLobbyDome01*.

Note The MAC address is a factory-assigned address that is unique for each device.

4. Enter an **IP Address** for the device on the network.

Note The address must be in the same address range. For example, if the PC's IP address is 192.168.1.xx, then the device should be set to a similar address, for example 192.168.1.xy.

5. Enter the device **Subnet Mask** value. A value is required.
6. Enter a default **Gateway Address** that connects the device to the static network. A value is required.
7. Click **Apply**.
   The network settings are updated and a message displays in the status bar to confirm the update.

Interfacing with the Camera through a Network Video Recorder

Your camera supports the PSIA specification for interoperability between network video products.

For further information, refer to the documentation supplied with your NVR or contact your NVR network administrator.

Step 5: Launch the Web Client to View Live Video

Note Only four users, any combination of Administrators and Guests, can log on to the web-client application at a time.

Note After the IP Utility software is installed for the first time, you can change the Administrator or Guest passwords and upgrade firmware.

Note It is important to click **Apply** in order to save any configuration change.

1. Log onto the web client. There are two ways to launch the web client and log on—with the Honeywell IP Utility program or directly from Internet Explorer.

   Honeywell IP Utility

   a. Log onto the Honeywell IP Utility program.

   b. From the **Discovery** pane, select and connect to the device to launch its browser (see *Connecting to a Device* on page *29* for more information).

   c. To enable or disable the HTTP server, select or clear the **Enable HTTP Server** check box. By default, the HTTP server is enabled.

   d. From the **System** tab, click **Launch Browser**.
   The web-client application for the selected device opens in Internet Explorer.

   Internet Explorer

   From Internet Explorer (v6.0+), **enter the URL** (IP address of the device) in the Address bar to open the logon window.

2. Select a **User Name** and enter a **Password**.

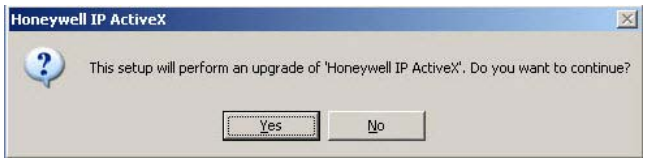
   a. From the **User Name** drop-down list, select **admin** or **Guest**.

b. In the **Password** field, enter the case-sensitive password.
   - The default admin password is **1234**.
   - The default Guest password is **guest**.

c. Click .

3. A signed version of ActiveX® control is installed when you use the web client to discover connected devices for the first time. If you have a previous version of IP ActiveX installed, you are prompted to upgrade to Honeywell secure ActiveX control.

Figure 3-4 ActiveX Prompt

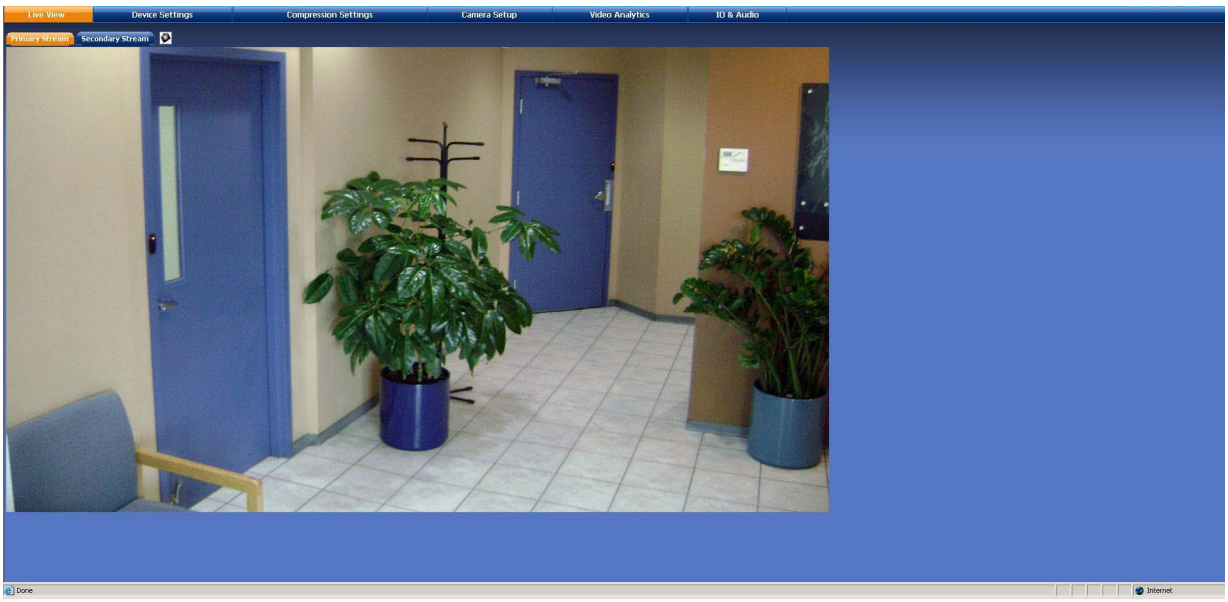


Click **Yes**.

4. Follow the InstallShield Wizard prompts to install the secure Honeywell IP ActiveX on your PC.
5. The `InstallShield Wizard Completed` message indicates a successful ActiveX upgrade. Click **Finish**.

   The web-client interface opens and live streaming video displays on the monitor.

Figure 3-5 Web-Client Interface After Logging On



Uninstalling IP Utility, Bonjour or the ActiveX Plug-in Software

You can uninstall the IP Utility, Bonjour, or IP ActiveX software using:

- The **Start** menu to uninstall IP Utility and Bonjour

  - or -

- The **Control Panel** to uninstall IP Utility, Bonjour and IP ActiveX.

Uninstalling IP Utility Using the Start Menu

1. Click **Start** ➤ **All Programs** ➤ **Honeywell Video Systems** ➤ **EQUIP Series** ➤ **IP Utility** ➤ **Uninstall Honeywell IP Utility**.
2. Follow the InstallShield Wizard instructions to uninstall the Honeywell IP Utility.

   The Honeywell IP Utility is uninstalled.
3. During the uninstallation process, you are prompted to also uninstall the Bonjour program. Click **Yes** to remove Bonjour or **No** to only uninstall the Honeywell IP Utility.
4. Click **Finish**.

Uninstalling IP Utility or IP ActiveX Using the Control Panel

1. Click **Start** ➤ **Settings** ➤ **Control Panel**.
2. Open **Add or Remove Programs** and select **Honeywell IP Utility** or **Honeywell IP ActiveX** from the **Currently installed** programs list.
3. Click **Change**/**Remove**.

   The **IP Utility Installation Wizard** screen opens.
4. Click **Next** ➤ **Remove**.

   The Honeywell IP Utility is uninstalled.
5. During the uninstallation process, you are prompted to also uninstall the Bonjour program. Click **Yes** to remove Bonjour or **No** to only uninstall the Honeywell IP Utility.
6. Click **Finish**.

4

IP Camera Web Client

Before you launch the Honeywell IP web client, ensure that you complete the following sections before configuring your camera:

- *Chapter 2, Installation and Setup*
- *Chapter 3, Installing the Honeywell IP Utility and Web Client*

This chapter covers:

- Navigating the web-client interface
- Understanding the web-client features and functions
- Configuring compression settings
- Configuring camera settings
- Setting tamper detection
- Configuring video detection settings

Overview

The network camera web client is a web-based application that enables you to view video, and configure camera settings, sabotage detection settings, and motion detection settings for the network camera.

Certain features of the IP camera web client are user-based and are available only to the Administrator. The guest user is limited to the Live View tab.

User Profiles

Table 4-1 describes the roles and privileges for the web client application users:

Table 4-1 User Roles and Privileges

User Role	Privileges
Administrator	• View video and network settings • Setup the video compression settings • Configure auto exposure and white balance for the camera • Setup camera sabotage and video motion detection settings
Guest Operator	• View video

Logging On and Off the IP Web Client

Note Up to four (4) Administrators and/or guest users can log on at the same time.

There are two ways to open each IP device web client.

- By clicking **Launch Browser** from the IP Utility interface.

  - or -

- Directly from Internet Explorer by entering the URL (the IP address) in the address bar.

Note The web page where you log on to the Honeywell IP Utility and any IP device web page (for example, the IP web client) look very similar. You can tell the difference between the two sites by the IP address in the web browser as well as the program name in the lower left corner of the window.

Launching the Web Client from IP Utility

1. From the desktop, double-click the **Honeywell IP Utility** icon .

   - or -

   Click **Start ➤ All Programs ➤ Honeywell Video Systems ➤ EQUIP Series ➤ IP Utility ➤ Honeywell IP Utility**.

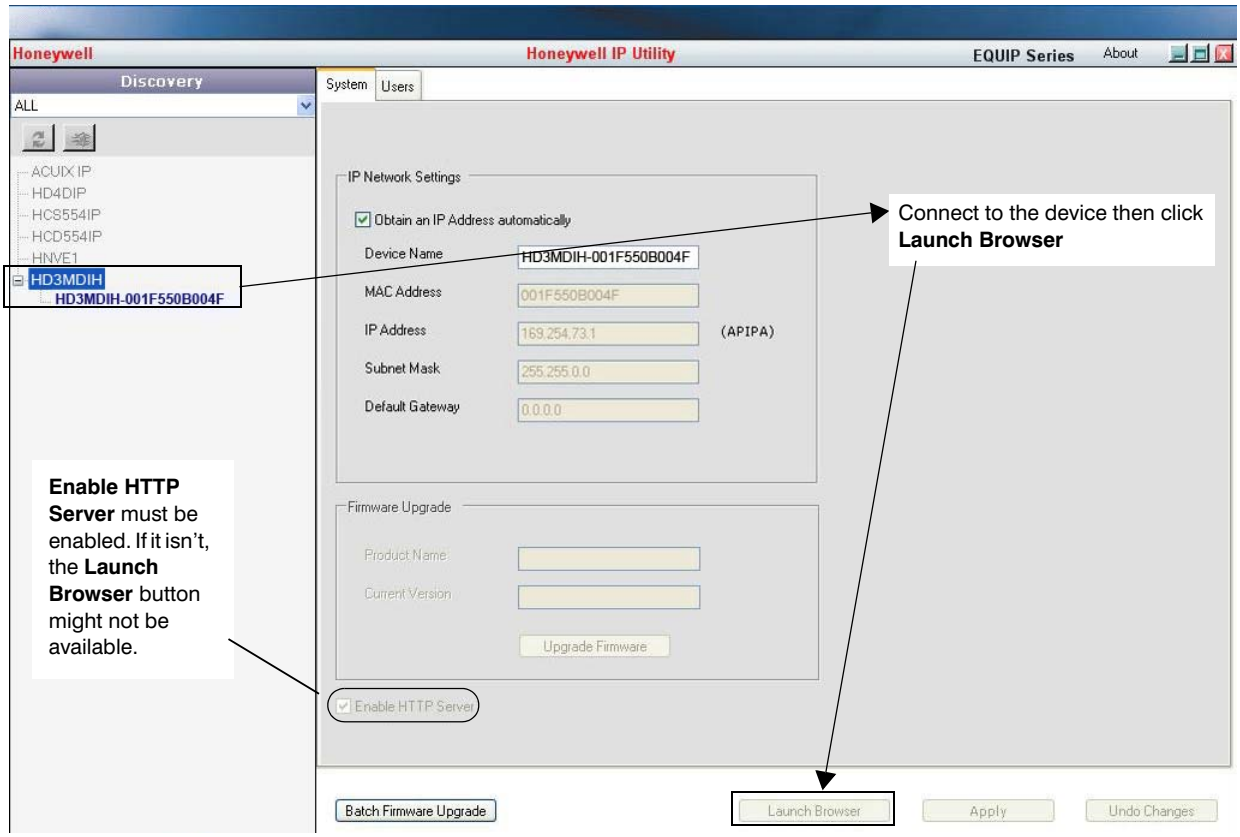
The **Honeywell IP Utility Log On** window opens.

2. From the **User Name** drop-down list, select **Administrator** or **Guest**.
   See *Table 4-1* on *page 38* for User roles and privileges.
3. In the **Password** field, enter the case-sensitive password.
   - The default Administrator password is **1234**.
   - The default Guest password is **guest**.
4. Click .
   The **Honeywell IP Utility** program searches for devices on the network and opens to the Honeywell IP Utility user interface.
5. In the **Discovery** pane, double-click the device you want to connect to.

   - or -

   Select the device and click **Connect** ( ).
   The network settings for the connected device are displayed in the **System** pane.
6. Click **Launch Browser** (see *Figure 4-1*) to go to the web client logon page.

Figure 4-1 Launching the Web Client from the IP Utility



Note If the **Launch Browser** button is inactive, then you must enable **Enable HTTP Server**. Select the **Enable HTTP Server** check box, and then click **Apply**. The Launch Browser button should then be enabled.

Logging Onto the Web Client from Internet Explorer

1. From Internet Explorer (v6.0+), enter the URL (IP address of the device) in the Address bar to open the logon window.

   The **web client** log on page opens.

Figure 4-2 Web Client Log On

2. Select a **User Name** and enter a **Password**.
   a. From the **User Name** drop-down list, select **admin** or **guest**.
   b. In the **Password** field, enter the case-sensitive password.
      - The default admin password is **1234**.
      - The default Guest password is **guest**.
   c. Click .
3. The web-client interface opens and live streaming video displays on the monitor.

Logging Out of the Web Client

To log out from the web-client application, click **Logout** at the top of the web-client window.

Note Do not use the **CLOSE** button ( ) in Internet Explorer to logout or the session might not end correctly, and settings that you have changed might not be saved.

Navigating the Web-Client User Interface

Figure 4-3 Web Client Window Layout: Administrator Log On

The **URL** corresponds to the IP Address as configured in the IP Utility.
Click **Logout** to exit the program. Confirm the user type logged in.
Honeywell
HD45IP
Live View
Device Settings
Compression Settings
Camera Setup
Video Analytics
IO & Audio
User: Administrator | LOGOUT
Primary Stream
Secondary Stream
If logged on as a **Guest**, only the **Live View** tab is available. Administrators can access all tabs.
Click the tabs to access the available configurations and settings.
SnapShot
Each tab has a section for configuration and/or navigation controls.
The image from your camera displays on every tab.

The web-client application user interface consists of multiple user-friendly views organized by function. Access to the views is user-controlled.

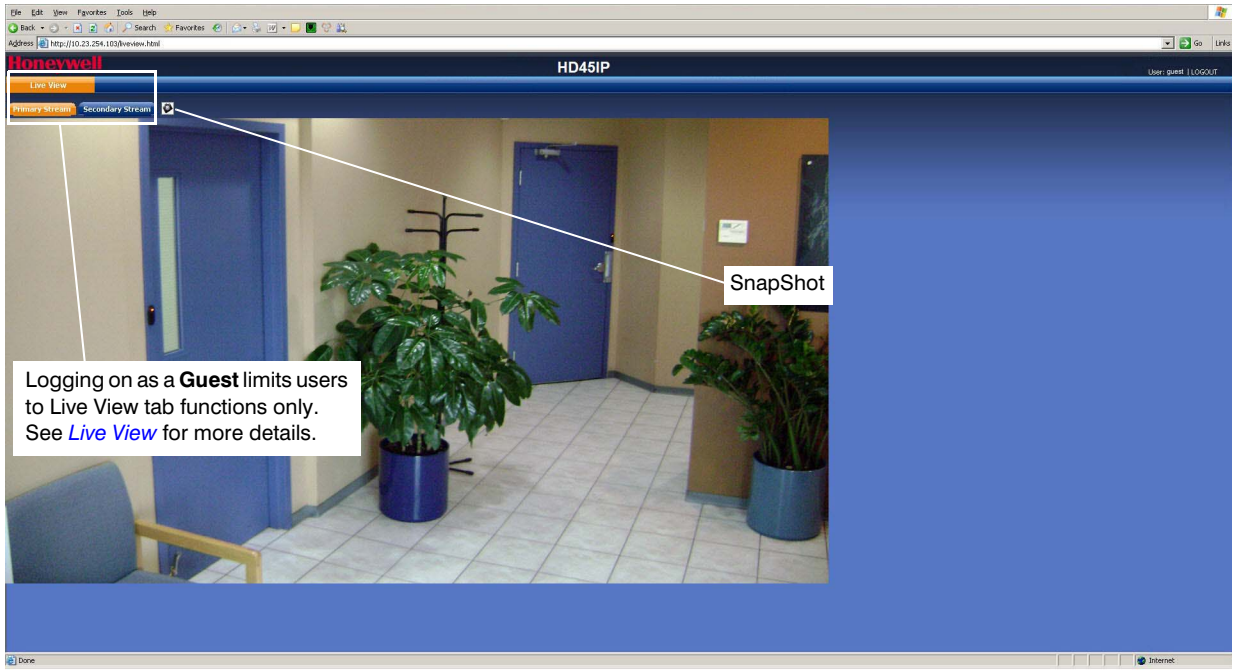
Table 4-2 Tabs/Views in the Web-Client Application

Tab	Enables you to...
Live View	View video and take SnapShots.
Device Settings	View the network settings and firmware details of the camera. Restore to factory defaults and reboot a camera.
Compression Settings	Configure the compression. Set the maximum bit rate and/or target bit rate that the camera will provide across the network based on priority mode settings. This value is the threshold that you do not want the bit rate to exceed. View received bit rate and frame rate statistics of the current image in real time.
Camera Setup	Configure auto exposure and white balance for the camera.
Video Analytics	Configure the camera sabotage detection settings and view video display.
IO and Audio	Not supported.

Figure 4-4 Web Client: Administrator User

Honeywell
HD45IP
Live View
Device Settings
Compression Settings
Camera Setup
Video Analytics
IO & Audio
User: Administrator | LOGOUT
Primary Stream
Secondary Stream
Click to select the video stream.
The **menu bar** displays which user is logged on and provides a link to log out of the application.
Click a **Tab** to display the corresponding view.
SnapShot
Screens are divided between displaying current video and the configuration options associated with the view.

Figure 4-5 Web Client: Guest User


Honeywell
HD45IP
Live View
Primary Stream
Secondary Stream
User: guest | LOGOUT
SnapShot
Logging on as a **Guest** limits users to Live View tab functions only. See *Live View* for more details.

Live View

Live View shows live video from the selected camera (see *Figure 4-5*).

Taking a SnapShot

The SnapShot function ( ) allows you to save an image from Live View to a default folder on your computer (C:\Program Files\Honeywell Video Systems\Support\Snapshots). Files are saved as: *DeviceName_Date_Time*.bmp. You are not asked for confirmation.

SnapShot is available to Administrators and Users with administrator and guest privileges.

Device Settings

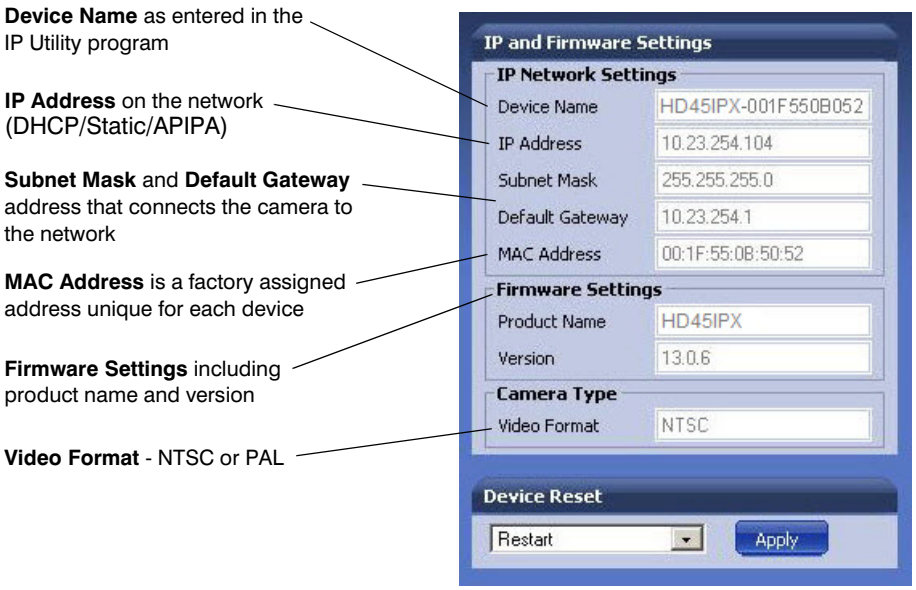
The Device Settings tab allows you to view the network settings and firmware details of the camera. It also allows you to restore to basic or full factory defaults, and to reboot a camera.

Configuring IP and Firmware Settings

Depending on the hardware installation, there is a tab called either **Device Information** or **Device Settings**. In both cases, the IP and Firmware Settings panel mirrors the information available in the Honeywell IP Utility. It provides read-only network settings, firmware settings, and video formats without having to access the IP Utility.

The Device Settings are the same for the Primary and Secondary streams.

Figure 4-6 IP and Firmware Settings: Device Information Tab



Resetting the Device

When resetting the device, you can choose from: **Restart**, **Restore**, and **Reset to Defaults**. See *Figure 4-6*. Each of these functions take approximately 2 minutes to complete, and during that time, the camera will lose connection to the web client. You will be asked if you wish to proceed before the action occurs.

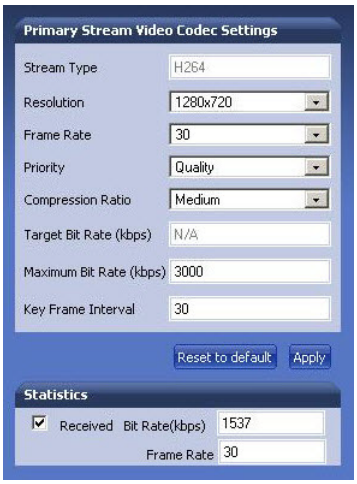
Restart	Restarts the camera while maintaining the existing configurations.
Restore	Resets the camera to the factory defaults, except the network settings.
Reset to Defaults	Resets to the camera's factory defaults.

Compression Settings

The video signal sent from the camera to the web client has a number of settings that can be edited which affect how the video displays in the web client. The Compression Settings view enables you to configure these settings:

- Stream Type
- Resolution
- Frame Rate
- Priority (**Quality** or **Bit Rate**)
- Compression Ratio (if **Quality** is chosen as the priority)
- Target Bit Rate (if **Bit Rate** is chosen as the priority)
- Maximum Bit Rate that the camera will provide across the network
- GOP (number of frames)

Figure 4-7 Compressions Settings Tab: Primary Stream



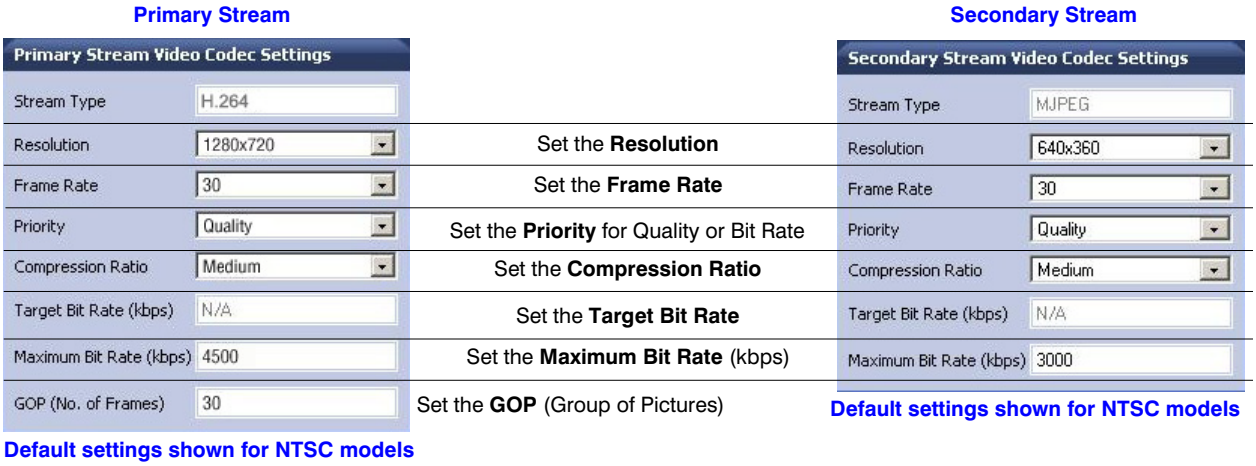
Your camera supports simultaneous video streams. The Primary stream delivers H.264 compressed video in real time 30/25 fps (NTSC/PAL) at:

- 1280 x 720 resolution (720p resolution for HD45IP/HD45IPX cameras).
- 640 x 480 resolution (VGA resolution for HD44IP/HD44IPX cameras).

The Secondary stream delivers MJPEG compressed video in real time 30/25 fps (NTSC/PAL) at 640 x 360 resolution.

Video Codec Settings Tab

Figure 4-8 Video Codec Settings Tab Available Functions



Configuring the Compression Settings

1. On the Compression Settings tab, in the **Statistics** area, select the **Received** check box to receive in real time the bit rate and frame rates for the current image. Deselecting the check box disables the refresh rate.

Note The **Received** check box is disabled by default. When you log out, this check box reverts to the disabled state.

2. Use *Table 4-4* to set up the streaming resolution and *Table 4-5* for the other compression settings.

Table 4-3 Video Streaming Resolutions for HD44IP

Primary Stream Resolutions	Secondary Stream Resolutions	
H.264	**H.264**	**MJPEG**
640 x 480 (4:3 aspect ratio)	640 x 480 (4:3 aspect ratio)	640 x 480 (4:3 aspect ratio)
640 x 360 (16:9 aspect ratio)	640 x 360 (16:9 aspect ratio)	640 x 360 (16:9 aspect ratio)
320 x 240 (4:3 aspect ratio)	320 x 240 (4:3 aspect ratio)	320 x 240 (4:3 aspect ratio)
320 x 180 (16:9 aspect ratio)	320 x 180 (16:9 aspect ratio)	320 x 180 (16:9 aspect ratio)

Table 4-4 Video Streaming Resolutions for HD45IP

Primary Stream Resolutions	Secondary Stream Resolutions	
H.264	**H.264**	**MJPEG**
1280 x 720 (16:9 aspect ratio) 800 x 450 (16:9 aspect ratio) 640 x 360 (16:9 aspect ratio) 320 x 180 (16:9 aspect ratio)	1280 x 720 (16:9 aspect ratio) 800 x 450 (16:9 aspect ratio) 640 x 360 (16:9 aspect ratio) 320 x 180 (16:9 aspect ratio)	640 x 360 (16:9 aspect ratio) 320 x 180 (16:9 aspect ratio)

Table 4-5 Compression Settings

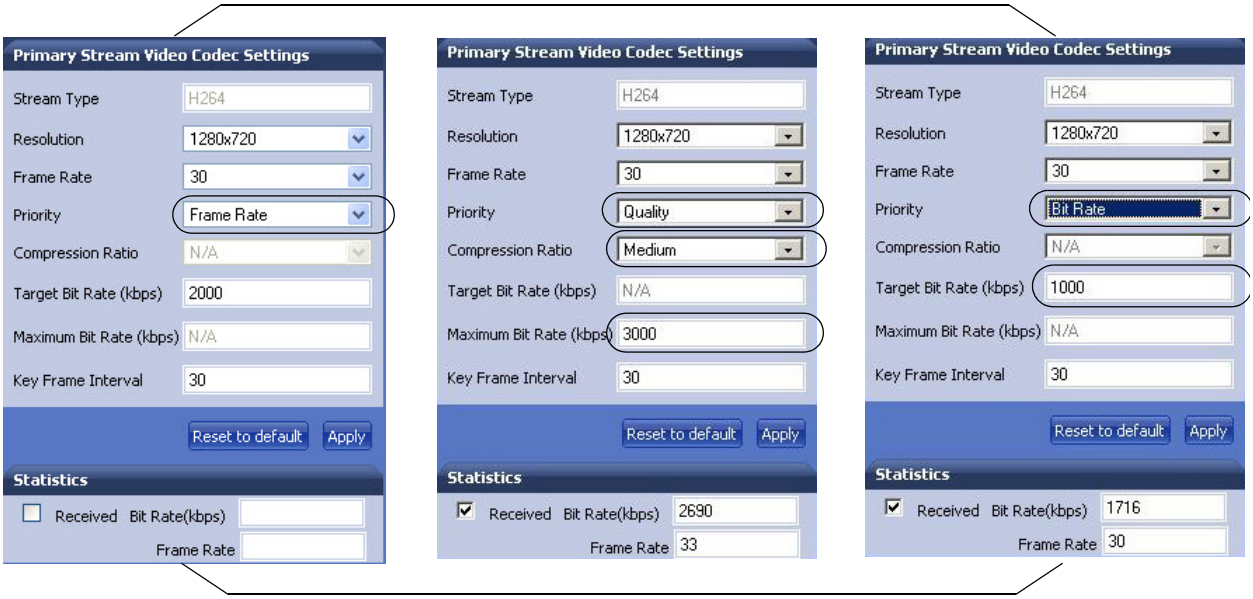
Setting	Options	Description
Frame Rate	1–30 (NTSC) 1–25 (PAL)	The frame rate that is displayed per second. For NTSC, select from **1** fps (lowest) to **30** fps (highest). For PAL, select from **1** fps (lowest) to **25** fps (highest).
Priority	Quality, Bit Rate	Allows you to set the maximum bit rate and/or target rate value, based on priority mode settings. This value is the threshold that you do not want the bit rate to exceed.

Select this Priority field setting	Field Setting	Description
Quality (see *Figure 4-9*)	Maximum Bit Rate The Target Bit Rate field is grayed out.	The camera maintains the picture quality until the bit rate delivered exceeds the Maximum Bit Rate (MBR), at which point the camera drops frames to ensure that the MBR is not exceeded.
Bit Rate (see *Figure 4-9*)	Target Bit Rate Maximum Bit Rate and Compression Ratio fields are grayed out.	The camera adjusts the picture quality to ensure that the bit rate delivered does not exceed the Target Bit Rate (TBR), at which point the camera drops frames to ensure that the TBR is not exceeded.
Frame Rate (see ***Figure 4-9***)	Target Bit Rate Maximum Bit Rate and Compression Ratio fields are grayed out.	The camera maintains the selected frame rate while adjusting image quality to meet the TBR. This mode allows the actual bit rate to fluctuate beyond the user-defined TBR while maintaining the selected frame rate.

Compression Ratio	Minimum, Low, Medium, High, Maximum	When Quality is selected as the Priority, select the Compression Ratio. **Minimum** is the highest visual quality; **Maximum** is the lowest visual quality.
Target Bit Rate (kbps)	250 – 6000 kbps	Enter the Target Bit Rate in kbps (kilobits per second) which represents the amount of data processed per second.
GOP (No. of Frames)	1– 50	Select the GOP (Group of pictures) number from **1** to **50**. (Not available on the Secondary Stream.)

Figure 4-9 Video Codec Settings

Set the Resolution for NTSC or PAL video signals.



Statistics are received for the current image in real time when **Received** is enabled.

3. Click **Apply**. Adjustments in your compression settings are captured in the statistics. As you make adjustments, the Statistics field acts as a visual reminder of how your settings affect the bit rate, frame rate, and bandwidth usage.
4. When you are satisfied with your settings — that is, that the image quality and bandwidth usage meets your requirements — click **Apply** to save your settings. Settings are not saved unless you click **Apply**.

Statistics: Received Bit Rate and Frame Rate

To view in real time the received bit rate and frame rate statistics of the current image:

1. Click the **Compression Settings** tab.
2. In the **Statistics** area, select the **Received** check box.

   Deselecting this check box disables the refresh rate.

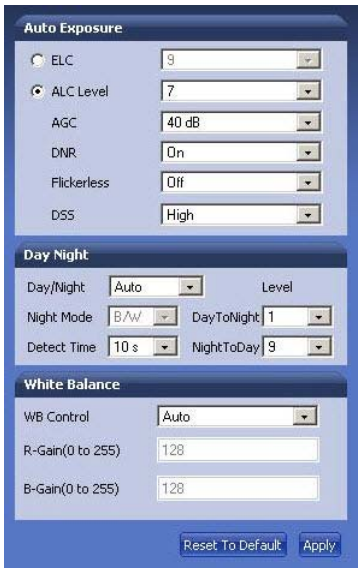
Note The Received check box is disabled by default. When you log out, this check box reverts to the disabled state.

Camera Setup

The Camera Setup view provides access to the settings used to configure the camera for both Primary and Secondary streams. The following section explains Auto Exposure and White Balance setup.

Note You must click **Apply** after you make changes to any settings to save those changes. Settings are not saved unless you click **Apply**.

Figure 4-10 Camera Setup



Auto Exposure

The Auto Exposure settings allow the user to access and configure exposure-related settings as described in *Table 4-6*.

Note You must click **Apply** after you make changes to any settings to save those changes. Settings are not saved unless you click **Apply**.

Table 4-6 Auto Exposure Settings

Setting	Options	Description
ELC (Electronic Light Compensation)	Level 1–25	Electronic shutter control. Select ELC when using a manual iris lens. Adjust the ELC level to the appropriate value so that the image is well exposed (neither too bright nor too dark).
ALC (Automatic Light Compensation)	DC Iris Level: 1–25	Select ALC when using using a DC (auto iris) lens. Adjust the ALC level to the appropriate value so that the image is well exposed (neither too bright nor too dark).
AGC (Automatic Gain Control)	Off, 20 dB–40 dB	Adjust the maximum value of AGC gain. AGC can be **Off**, or set to **20 dB**, **30 dB**, or **40 dB**. **Note** As AGC levels are reduced, the threshold ranges for DayToNight and NightToDay are decreased.
DNR (Digital Noise Reduction)	Off, On, Fixed	Improves picture performance in low light by reducing video noise. DNR will remove video noise, but will also soften the image. **Off** - DNR is turned off. **Auto** - DNR is automatically controlled by the firmware according to changes in the lighting condition. **Fixed** - DNR is manually set to the highest value regardless of changes in the lighting condition. You will get the least video noise (dots), but the softest image. DNR is deactivated if AGC is turned Off.
Flickerless	Off, On	Eliminates the “flicker” that can appear in an image under certain lighting conditions (for example, fluorescent lighting). This setting is not available if you have selected ELC.
DSS (Digital Slow Shutter)	Off, Low, High	Automatically provides a clear image under low-light conditions. DSS improves the picture quality (brightness) in low-light scenes. DSS might introduce motion blur; the higher the setting, the more likely motion blur will occur.
Day/Night	Auto, Day, Night	Controls Day/Night (SDN) operation.
Night Mode	B/W or Color	Sets the color mode as **B**/**W** (monochrome) or **Color** in Night Mode. Day/Night must be set to **Night**.
Detect Time	5–60 seconds	Sets the time (**5**–**60** seconds) before the camera switches to Day or Night mode after detecting a low-light condition or a normal light condition, respectively. Day/Night must be set to **Auto**.

Table 4-6 Auto Exposure Settings (cont'd)

Setting	Options	Description
DayToNight	1–7	Determines the low light detection level (**1**–**7**) when the camera switches to Night mode. The lower the value, the darker the lighting conditions before the camera switches. Day/Night must be set to **Auto**. **Note** The DayToNight threshold level must be set at least 2 less than the NightToDay threshold setting. **Note** The DayToNight threshold range is decreased if the AGC level is reduced.
NightToDay	3–9	Determines the low light detection level (**3**–**9**) when the camera switches to Day mode. The higher the value, the brighter the lighting conditions before the camera switches. Day/Night must be set to **Auto**. **Note** The NightToDay threshold range is decreased if the AGC level is reduced.

White Balance

White Balance ensures that color integrity is maintained in the camera image by compensating for the temperature color "casts" that different light sources can cause. Use *Table 4-7* to set up White Balance options.

Note You must click **Apply** after you make changes to any settings to save those changes. Settings are not saved unless you click **Apply**.

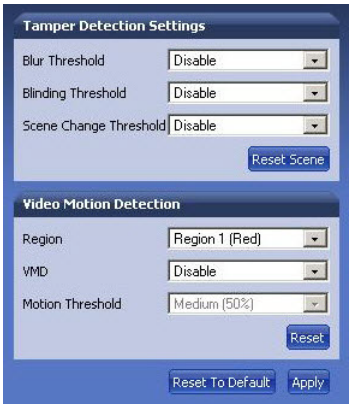
Table 4-7 White Balance Settings

Option	Description
AWC Auto (Auto White Balance Control Mode)	An automatic white balance mode that can be used in scenes which do not have constant lighting.
MWB (Manual Mode)	Manual white balance mode. Set the Red and Blue gains from 0–255.
AWC Push (Auto White Balance Control Mode)	Automatically adjust the white balance to your specific environment. The user can optimize WB for the given scene by pressing and holding an adjustment button. When selected, the white balance is locked. **Note** This setting is recommended for situations in which the light conditions are constant, so that the specified color temperature does not change.

Video Analytics

Your camera can be configured to detect camera sabotage and motion within a scene with the Video Analytics view (see *Figure 4-11*). The Video Analytics tab enables a user to set the tamper detection threshold settings for blur, blinding and scene changes.

Figure 4-11 Video Analytics Tab

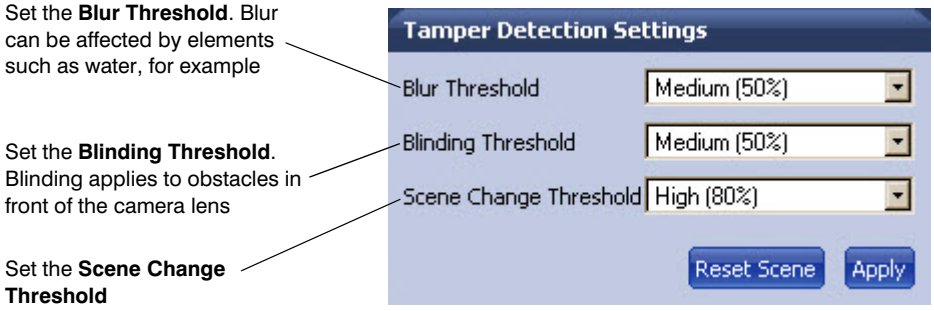


Each Tamper Detection Setting provides 3 threshold levels: High (80%), Medium (50%) and Low (30%).

Each setting has three threshold levels: high (80%), medium (50%) and low (30%). When these thresholds are exceeded, camera sabotage or motion is detected, and alarm messages appear above the video display and alarm signals are sent to DVRs/NVRs (see *Figure 4-13*).

Sabotage Detection

Figure 4-12 Tamper Detection Settings on the Video Analytics Tab


Set the **Blur Threshold**. Blur can be affected by elements such as water, for example
Set the **Blinding Threshold**. Blinding applies to obstacles in front of the camera lens
Set the **Scene Change Threshold**
Tamper Detection Settings
Blur Threshold
Medium (50%)
Blinding Threshold
Medium (50%)
Scene Change Threshold
High (80%)
Reset Scene
Apply

There are three types of sabotage detection in the Tamper Detection Setting tab on the Video Analytics tab: blinding the camera, blurring the video display, and tampering with the camera field of view. The user should note that when the following conditions are applicable, the tamper detection features should be manually disabled to avoid raising false alarms:

- During the configuration of the video display
- While text is overlaid on the video
- If the video display becomes too dark

Figure 4-13 Video Analytics Alarm Message

Configuring Video Blur Detection

The video appears blurred when the camera is exposed to elements such as water. When this occurs, video blurring in the field of view is detected and an alarm message appears (see *Figure 4-13*) above the video display. To detect video blurring:

1. Click the **Video Analytics** tab.
2. In the **Blur Threshold** list, select one of the following options:

Table 4-8 Blur Threshold Values

Value	To detect …
High (80%)	Maximum video blurring. The alarm message appears when the video display is blurred by 80% or more.
Medium (50%)	Medium video blurring. The alarm message appears when the video display is blurred by 50% or more.
Low (30%)	Minimum video blurring. The alarm message appears when the video display is blurred by 30% or more.

3. Click **Apply**.

Note To turn off video blur detection, select **Disable** in the **Blur Threshold** list. **Disable** is the default value.

Note You must click **Apply** after you make changes to any settings to save those changes. Settings are not saved unless you click **Apply**.

Configuring Camera Blinding Detection

An obstacle in front of the camera lens can blind the camera. When this occurs, camera blinding is detected and an alarm message appears above the video display (see *Figure 4-13*). To detect camera blinding:

1. Click the **Video Analytics** tab.
2. In the **Blinding Threshold** list, select one of the following options:

Table 4-9 Blinding Threshold Values

Value	To detect …
High (80%)	Maximum blinding. The alarm message appears when your camera is blinded by 80% or more.
Medium (50%)	Medium blinding. The alarm message appears when your camera is blinded by 50% or more.
Low (30%)	Minimum blinding. The alarm message appears when your camera is blinded by 30% or more.

3. Click **Apply**.

Note To turn off camera blind detection, select **Disable** in the **Blinding Threshold** list. **Disable** is the default value.

Note You must click **Apply** after you make changes to any settings to save those changes. Settings are not saved unless you click **Apply**.

Configuring Camera Field of View Change Detection

The web-client application can detect tampering of the camera field of view and show an alarm message above the video display (see *Figure 4-13*). To detect a change in the camera field of view:

1. Click the **Video Analytics** tab.
2. In the **Scene Change Threshold** list, select one of the following options:

Table 4-10 Scene Change Threshold Values

Value	To detect …
High (80%)	Maximum change in the camera field of view. The alarm message appears when tampering causes at least an 80% change in your camera field of view.
Medium (50%)	Medium change in the camera field of view. The alarm message appears when tampering causes at least a 50% change in your camera field of view.
Low (30%)	Minimum change in the camera field of view. The alarm message appears when tampering causes at least a 30% change in your camera field of view.

3. Click **Apply**.

Note To turn off camera field of view change detection, select **Disable** in the **Scene Change Threshold** list. **Disable** is the default value.

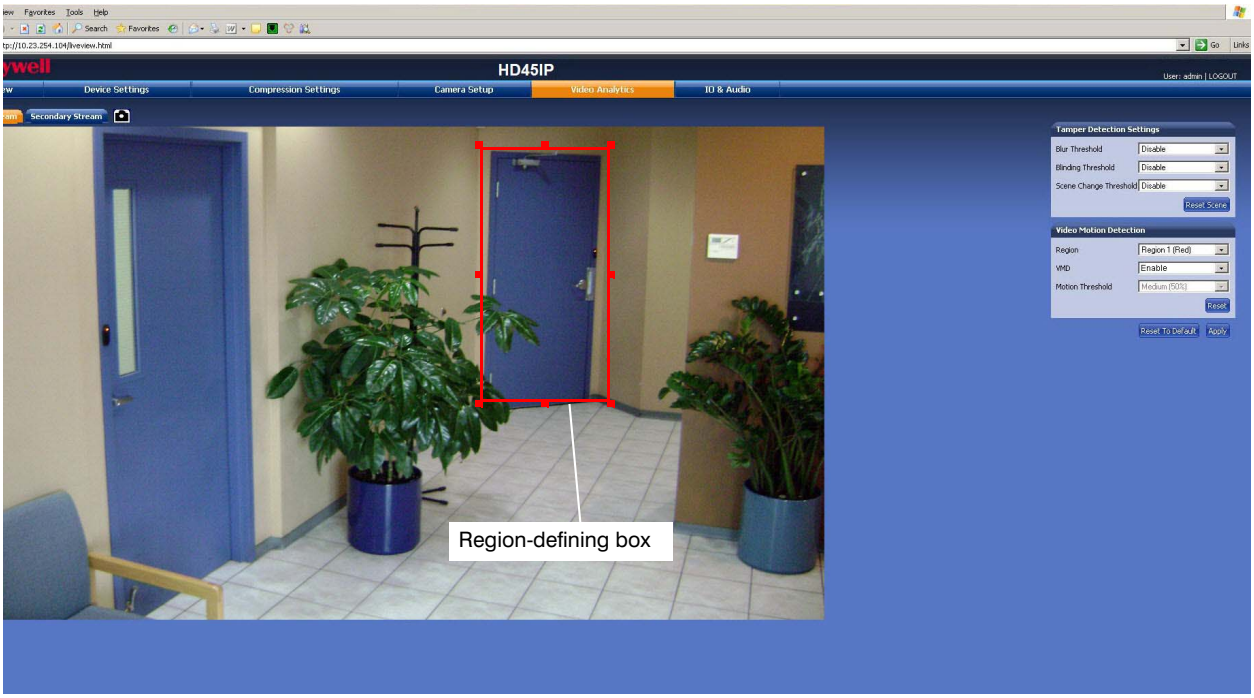
Note You must click **Apply** after you make changes to any settings to save those changes. Settings are not saved unless you click **Apply**.

Configuring Video Motion Detection

For motion detection, an Administrator can enable and configure up to 5 zones within a scene. The enabled and configured zones will be monitored for motion.

1. Click the **Region** drop-down menu, then select a region from the five available.
2. Click the VMD drop-down arrow, and select **Enable**.
   The Regions appear in their default positions.
3. Click **Apply**.
4. Click and drag the box to resize and place it over the camera image.
5. Select the sensitivity level (High, Medium, Low).

Figure 4-14 Motion Detection: Defining a Region



Note To disable a zone, click the VMD drop-down menu, then select **Disable**.

Fine Tuning Video Motion Detection

For best results, the VMD configuration has to be adjusted to match the camera field of view, regions of interest and other factors.

1. Identify areas in the image where motion detection alarms should be triggered.

   In some applications, motion anywhere in the image needs to be reported. In other applications, users only want to monitor specific areas such as doors, stairwells, or other areas of interest.

2. Select one of the five available regions for each area of interest, and draw the region-of-interest box for that region to fully cover the area of interest.

Note The camera only measures motion inside the drawn region-of-interest box. So a person or vehicle moving along the boundary of the box may or may not trigger an alarm, because their motion will only be evaluated partially. It is therefore important to adjust the region-of-interest boxes to fully cover the areas of interest.

In cameras with a wide field of view, or when activity happens far away from the camera, people and vehicles might appear rather small in the image. In such cases, it might not be possible to apply a single area of interest to the whole field of view and

reliably detect motion. In such cases, it is recommended to cover the camera view with multiple, smaller region-of-interest boxes, and to concentrate on areas where motion alarms are of most interest to the user, such as entrances, restricted access areas, etc.

3. Use the medium sensitivity at 50% as the initial setting. It can be further adjusted as explained below.

Note Observe VMD performance in all expected lighting conditions after the initial configuration is applied. Ensure that relevant scene motion triggers alarms and ensure that the camera is not reporting false alarms (such as VMD alarms triggered due to image noise).

Increasing VMD sensitivity

If relevant scene motion does not trigger VMD alarms, the following adjustments will increase VMD sensitivity:

- Decreasing the sensitivity level from 80% to 50%, or from 50% to 30%. This change will cause smaller objects to trigger alarms and it will also require smaller contrast level to report and alarm. This should be the primary adjustment mechanism.
- Reducing the size of the region-of-interest box (and adding more regions if needed). This adjustment will cause smaller objects to also trigger VMD alarms.

Note After VMD sensitivity is increased, observe the performance in other lighting conditions in case further tuning is required to prevent false alarms.

Decreasing VMD sensitivity

If VMD alarms are triggered even when there is no motion and no large changes in the video, the following adjustments will decrease VMD sensitivity:

- Increasing the sensitivity level from 30% to 50%, or from 50% to 80%. This should be the primary adjustment mechanism, because it increases the required contrast level (or amount of noise) required to trigger an alarm. Higher sensitivity levels also require larger amount of motion to be observed before a VMD alarm is triggered.
- Increasing the size of the region-of-interest box. This adjustment will prevent smaller objects (or smaller areas of noise) from triggering VMD alarms.

VMD configuration examples

These examples are provided only for illustration. Other factors such as lighting level, contrast, and image noise may affect VMD performance and may require tuning adjustments as described above.

Normal Field of View

In a normal field of view, with a person walking in front of the camera, the maximum recommended region-of-interest box sizes would be as shown by the red boxes in *Figure 4-15*, *Figure 4-16*, and *Figure 4-17*.

Figure 4-15 Video Motion Detection Configuration - 30% Sensitivity Level

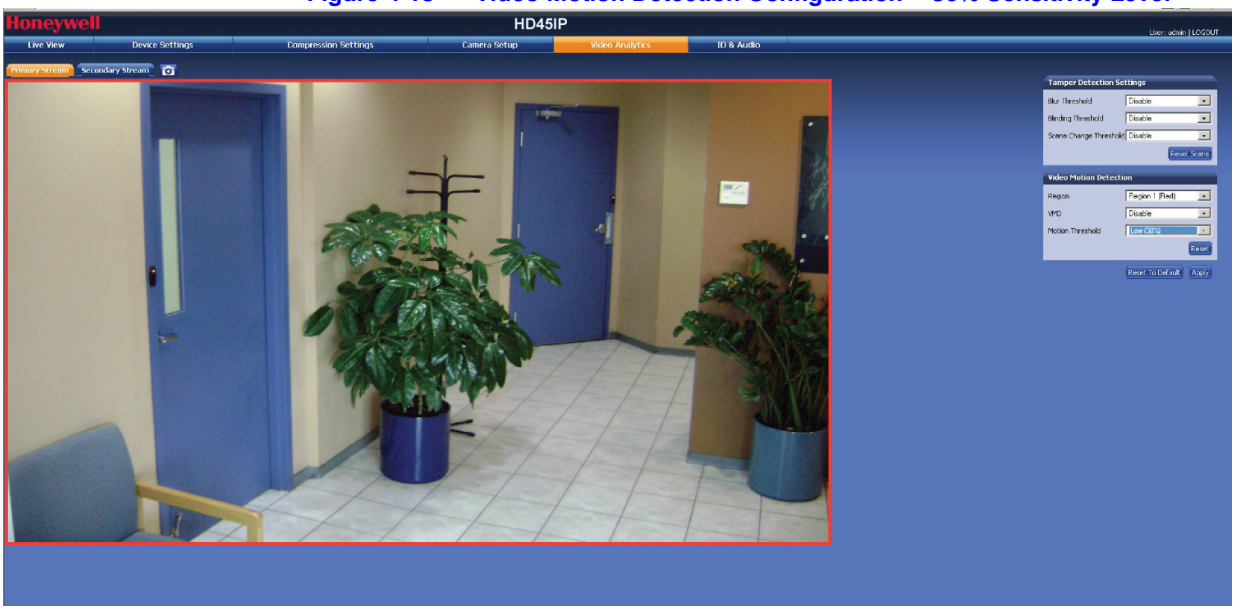


Figure 4-16 Video Motion Detection Configuration - 50% Sensitivity Level

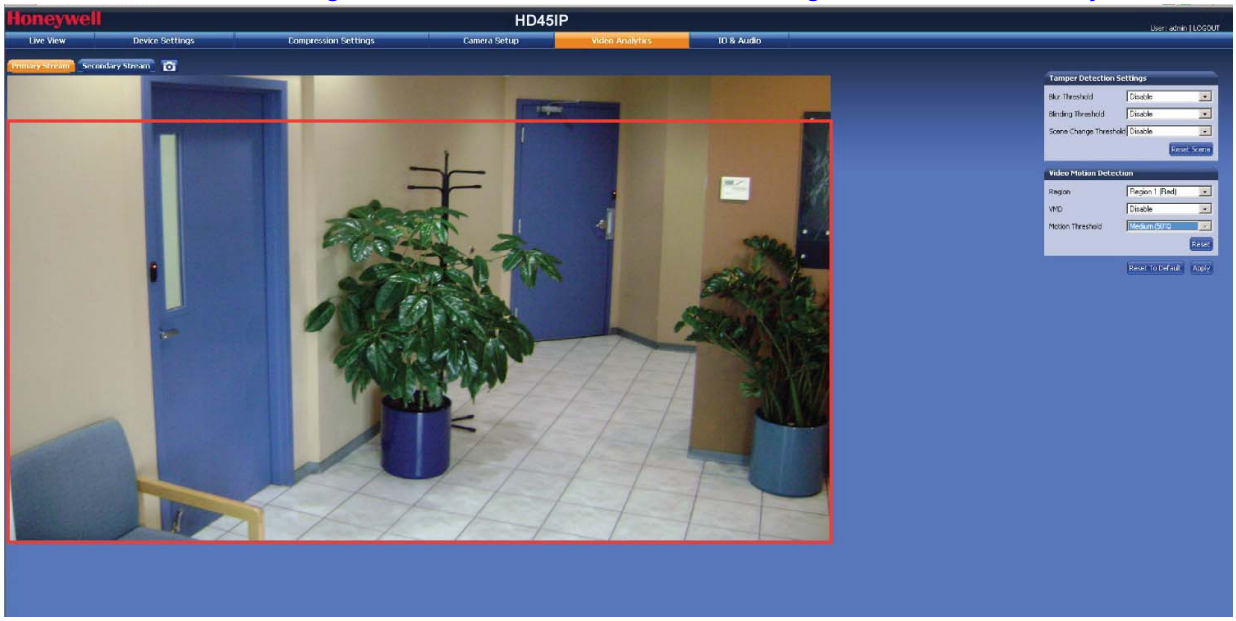
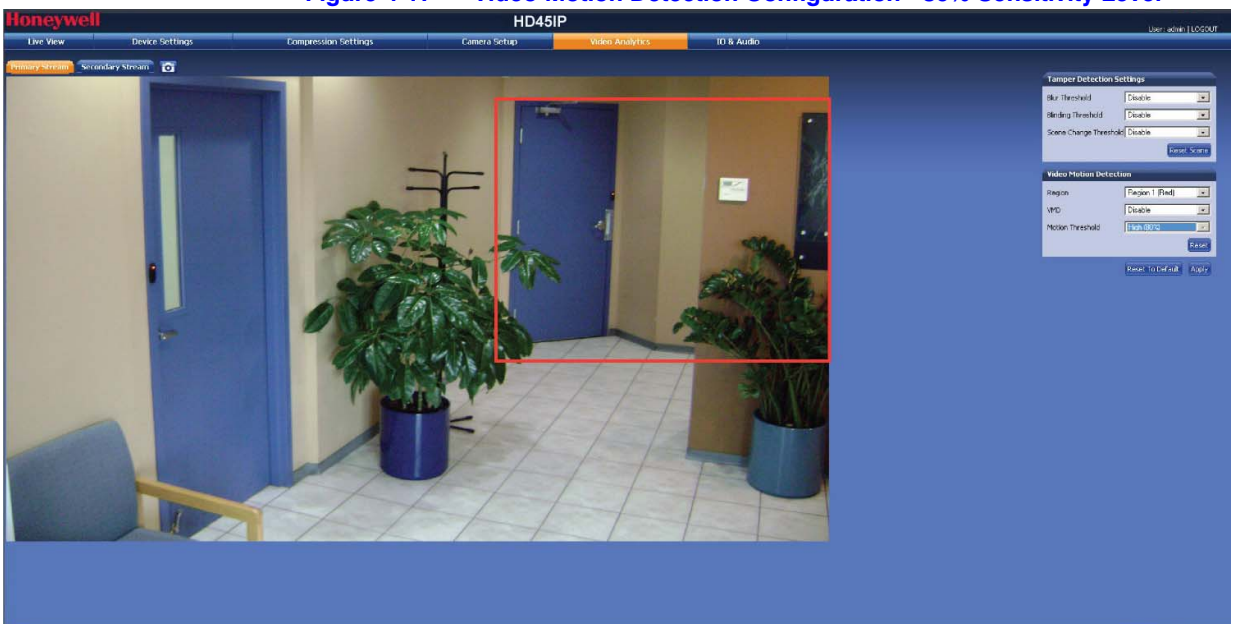


Figure 4-17 Video Motion Detection Configuration - 80% Sensitivity Level

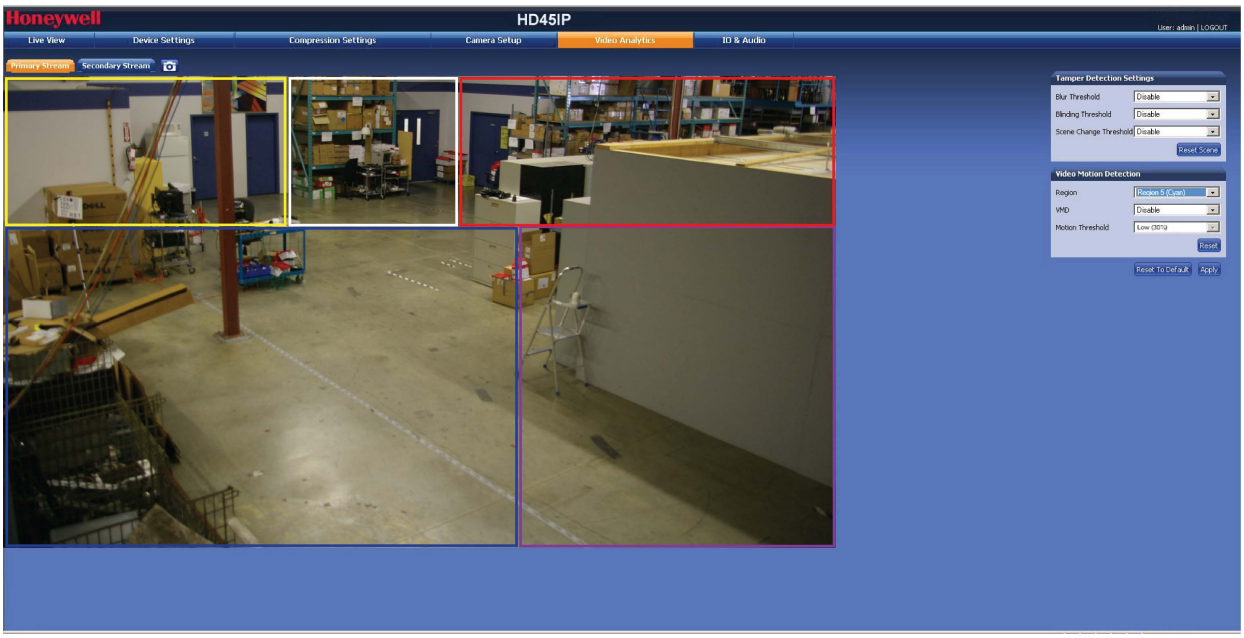


Wide Field of View

For cameras with a wide-angle field of view covering a larger scene, people who walk far away from the camera might appear rather small in the image. If motion needs to be detected in the entire field of view, the following region-of-interest box configuration is recommended:

- Three smaller boxes, set to 30% sensitivity, covering the upper portion of the image where people appear small.
- Two larger boxes, set to 50% sensitivity, covering the lower portion of the image where objects appear larger.

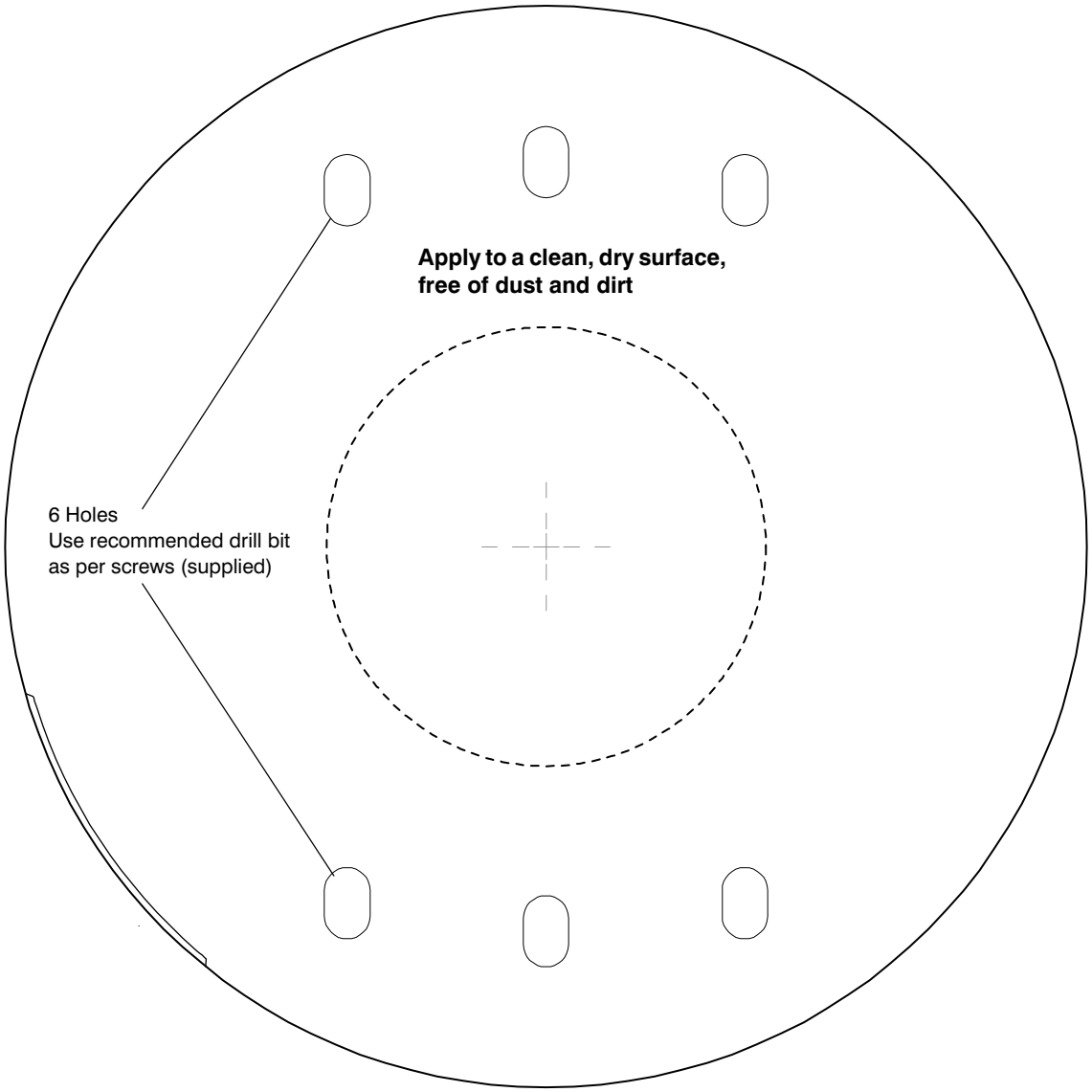
Video Motion Detection Configuration - A Combination Setup



A

Surface Mounting Template

HD45IP/HD45IPXHD44IP/HD44IPX Cameras Surface Mounting Template



B

Troubleshooting

Technical Support

Prior to calling Honeywell technical support, refer to the following topics for possible solutions to problems with your camera. To contact the Honeywell Video Systems technical support team, call 1-800-796-2288 (North America only) or send an e-mail to HVSsupport@honeywell.com. See the back cover of this guide for international technical support contact information

Any equipment returned to Honeywell Video Systems for warranty or service repair must have a Return Merchandise Authorization (RMA) number. The RMA number must be clearly marked on all return packages and internal paperwork.

Problem: Lens Not in Optical Focus

Possible solutions:

- Verify that the lens cap has been removed from the camera.
- This can also be caused by dirt, oil, grease, and fingerprints, and so on, that have accumulated on the lens or bubble. Check the lens and dome bubble, then clean them, if needed.

Caution Use extreme caution when cleaning the lens and dome bubble so that you do not scratch their optical surfaces. Prepare a washed-out cotton cloth or lens cleaning paper with alcohol or lens cleaning liquid. Clean by moving spirally from the lens center towards its rim. Repeat until the lens is completely clean.

Problem: Live View Does Not Display the Expected Video

Possible solutions:

- Ensure that your web browser settings have been configured to allow ActiveX controls (see *Installing the Honeywell IP Utility and Web Client* on page *29* for information on setting up your browser).
- Ensure that the network cable from the camera is connected to both the camera and the network.

Problem: IP Utility Software Installation Fails

Disable Norton AntiVirus software, then install the IP Utility software.

Problem: Cannot Connect to a Device

When the following message (*Figure B-1*) displays in the status bar of the IP Utility, your device connection is limited. Usually this warning indicates that your PC and the device your are connecting to are on different subnets. Contact your network administrator for help to resolve your network issue(s).

Figure B-1 Limited or No Connection Message

C

Specifications

Note These specifications refer to all models, except where otherwise noted. Specifications are subject to change without notice.

Video Signal Specifications	NTSC	PAL
Scanning System:	Progressive	
Image Sensor:	1/4” CMOS	
Number of Pixels (H x V):	1280 x 720 (HD45IP/HD45IPX) 640 x 480 (HD44IP/HD44IPX)	
Minimum Illumination:	0.25 lux @ 50 IRE, F1.4 0.11 lux @ 30 IRE, F1.4	
Video Output (local):	1.0 Vp-p @ 75 Ohms	
S/N Ratio:	50 dB or more (AGC off)	
Auto Gain Control (AGC):	Off/On, selectable (10 – 40 dB)	
Auto Electronic Shutter (ELC):	1/60 – 1/24,500 sec	1/50 – 1/24,500 sec
Automatic Lens Iris Control:	DC Iris level 1 – 25	
White Balance (AWB):	AWC, AWC Push, Manual	
Lens Type:	3.3 mm to 12.0 mm Vari-focal Auto Iris, F1.4	
Electrical Specifications		
Input Voltage:	24 V AC, PoE IEEE 802.3af, Class 1	
Input Voltage Range:	17 – 28 V AC	
Surge Suppression:	1.5 kW transient	
Power Consumption:	3.5 W (max)	
Mechanical		
Dimensions (W x H):	See diagrams (*Figure C-1*, *Figure C-2*)	
Weight:	1.0 lb (0.448 kg) camera only	
Construction:	Housing: Polycarbonate Finish: Matte texture, off-white	
Connectors:	Local Video Output (AUX): 2-pin Molex connector Power Input: Removable screw block Network: RJ45 connector	
Environmental		
Temperature:	Operating: 14°F to 122°F (-10°C to 50°C) Storage: -40°F to 158°F (-40°C to 70°C)	
Relative Humidity:	0% to 85%, non-condensing	

IP Specifications	H.264 Compression: Primary and Secondary Streams	MJPEG Compression: Secondary Stream
Resolutions: HD44IP/X	640 x 480 (4:3) 640 x 360 (16:9) 320 x 240 (4:3) 320 x 180 (16:9)	640 x 480 (4:3) 640 x 360 (16:9) 320 x 240 (4:3) 320 x 180 (16:9)
Resolutions: HD45IP/X	1280 x 720 (16:9) 800 x 450 (16:9) 640 x 360 (16:9) 320 x 180 (16:9))	640 x 360 (16:9) 320 x 180 (16:9)
Software Update:	Field Upgradeable	
Frame Rate NTSC/PAL:	Up to 30/25 fps video in all resolutions	
Video Streaming:	Dual Streaming: H.264 and MJPEG. Controllable frame rate and bandwidth.	
Security:	Multiple user access levels with password protection	
Users:	Up to four (4) Administrators and/or guest users can log on at the same time.	
Video access from web browser:	Full control of all camera settings available to administrator	
Minimum web browsing requirements:	Pentium IV CPU 3.1 GHz or faster 1 GB RAM (32-bit) or 2 GB RAM (64-bit) Windows XP® SP3, Windows 2003 Server R2 (32-bit), Windows 7 (32/64-bit), Windows 2008 Server (32/64-bit) and Windows 2008 R2 (64-bit) Internet Explorer 6,7, 8, or 9	
Installation, Management, and Maintenance:	Honeywell IP Utility software identifies the IP address, checks the status of the device. Firmware upgrades over HTTP, firmware available at www.honeywellsystems.com/support/download-center/index.html.	
Supported Protocols:	HTTP, TCP, RTSP, RTP, UDP, ARP, DNS, RTCP, FTP, ICMP, DHCP, Bonjour, IGMP, Telnet	
Standards	PSIA support	
Regulatory		
EMC 2004/108/EC		
Emissions:	FCC part 15B, CE: EN55022	
Immunity:	EN55024	
Safety:	EU: 2001/95/EC GPSD, UL 60950-1; CSA C22.2 No. 60950-1	
Housing and Mounts		
HD3-MK:	Wall/Pendant mount kit, off-white	

Figure C-1 Camera Side View with Dimensions

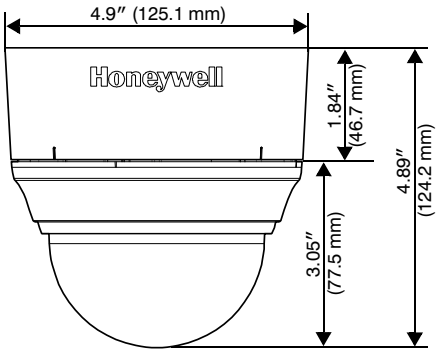
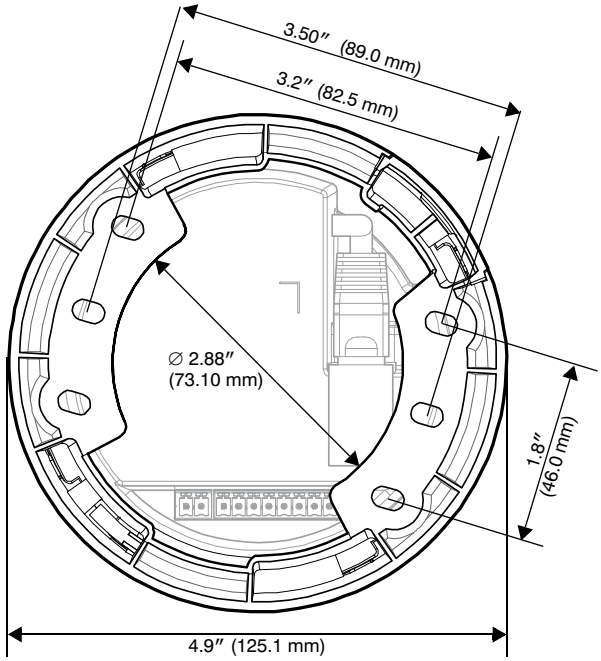


Figure C-2 Camera Bottom View with Dimensions



D

Glossary

AGC (Automatic Gain Control) Video Amplifier in a camera that boosts the amount of video gain (including the noise) to maintain a 1 V p-p (1-volt peak-to-peak) video signal output. It becomes operational when the light level is low. The circuit is designed to compensate for fluctuations in scene illumination which would cause the video output level to be too low. If the video level (scene illumination) is adequate, the circuit does not apply any gain to the signal. As the video level falls, more gain is applied by the AGC circuit to the video signal.

ALC (Automatic Light Compensation) Setting in an Auto Iris lens to control the iris opening. Adjusts between peak and average to respond to the bright part of the scene (peak setting) or the average value of the video signal (average setting).

DHCP (Dynamic Host Configuration Protocol) Allows a server to dynamically assign IP addresses to nodes (workstations) automatically. Provides client information including subnetwork mask, gateway address, and DNS (Domain Address Server) addresses.

DNR (Digital Noise Reduction) Digital Noise Reduction eliminates the “flicker” that can appear in an image under certain lighting conditions (for example, fluorescent lighting).

DSS (Digital Slow Shutter) Automatically provides a clear image under low-light conditions (increasing magnification may cause noise/distortion).

ELC (Electronic Light Control) Typically used with manual iris lenses. The image brightness is controlled electronically by the camera through automatically adjusting shutter speed for a properly exposed picture.

Flickerless Eliminates the “flicker” that can appear in an image under certain lighting conditions (for example, fluorescent lighting). This is usually caused by the interaction of the shutter with the AC frequency of the lighting. The flickerless setting changes the camera shutter speed to a value that will not cause flicker (1/100 sec, NTSC, 1/120 sec for PAL). The side effect is that the camera sensitivity is reduced because the electronic iris feature has effectively been turned off and will no longer control the optimum exposure setting for available light conditions.

FOV (Field of View) The part of the scene visible with a particular lens. The height (horizontal) and width (vertical) picture size at a given distance that can be seen through a lens. Generally, shorter focal length lenses have a wider field of view than those with longer focal lengths.

Gain The amplification a system provides to a signal.

IP Address A unique, 32-bit identifier for a specific TCP/IP host computer on a network.

Iris Adjust Adjusts the iris to either open or close in response to changing light conditions.

NTSC (National Television Standards Committee) A standard of specifications for television transmission in the U.S., Canada, Japan, Central America, and half of South America. The North American system uses interlaced scans and 525 horizontal lines per frame at 30 frames per second.

PAL (Phase Alternate Line) A standard of specifications for television transmission for color TV signals used in Germany, England, Holland, Australia, and several other countries. It uses an interlaced format with 625 lines per frame at 25 frames per second.

PoE (Power over Ethernet) A method of powering Ethernet-connected devices through the Ethernet cabling as defined in the IEEE 802.3af standard, class 1.

Shutter Speed The speed at which the charge is read out from the CCD chip. Adjusts the light sensitivity of the camera. A faster (briefer) shutter speed can arrest the motion of a fast moving object (reduce image blur), rendering it sharp. Fast shutter speeds allow less light to all on the CCD and can darken the image. For fast shutter speeds, ensure there is adequate lighting. Usually selected using DIP switches on the side of the camera.

Subnet Mask A number used to identify a subnetwork so that an IP address can be shared on a LAN.

UPS (Uninterruptible Power Supply) These are power supplies used in the majority of high security systems, whose purpose is to back up the system when the main power fails.

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